

11/12/04

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&lt;210&gt; 5232

&lt;211&gt; 201

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

BEST AVAILABLE COPY

&lt;400&gt; 5232

Met Thr Leu Arg Pro Ser Leu Leu Pro Leu His Leu Leu Leu Leu Leu

1

5

10

15

Leu Leu Ser Ala Ala Val Cys Arg Ala Glu Ala Gly Leu Glu Thr Glu

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25

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Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu Pro Pro Glu

35

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Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu His Ile His Tyr

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Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp Thr Ser Leu Thr Arg

65

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Asp Pro Leu Val Ile Glu Leu Gly Gln Lys Gln Val Ile Pro Gly Leu

85

90

95

Glu Gln Ser Leu Leu Asp Met Cys Val Gly Glu Lys Arg Arg Ala Ile

100

105

110

Ile Pro Ser His Leu Ala Tyr Gly Lys Arg Gly Phe Pro Pro Ser Val

115

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125

Pro Ala Asp Ala Val Val Gln Tyr Asp Val Glu Leu Ile Ala Leu Ile

130

135

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Arg Ala Asn Tyr Trp Leu Lys Leu Val Lys Gly Ile Leu Pro Leu Val

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Gly Met Ala Met Val Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu

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Tyr Arg Lys Ala Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu

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Glu Lys Arg Asn Lys Ser Lys Lys Lys

195

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&lt;210&gt; 5233

&lt;211&gt; 2801

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5233

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&lt;210&gt; 5234

&lt;211&gt; 57

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5234

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Thr | Pro | Val | Ile | Ser | Ala | Leu | Trp | Glu | Ala | Lys | Ala | Gly | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Asp | Thr | Arg | Ser | Ser | Arg | Pro | Val | Trp | Gln | Arg | Gly | Glu | Thr | Thr |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ile | Ile | Ser | Lys | Glu | Thr | Pro | Pro | Pro | Pro | Arg | Leu | Ile | Phe | Lys | Lys |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Ala | Val | Pro | Val | Val | Pro | Ala | Thr |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5235

&lt;211&gt; 3017

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5235

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&lt;210&gt; 5236

&lt;211&gt; 178

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5236

Lys Thr Ile Val Leu Pro Pro Asn Trp Lys Thr Ala Arg Asp Pro Glu

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|---|-----|-----|-----|
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| Gly Lys Ile Tyr Tyr His Val Ile Thr Arg Gln Thr Gln Trp Asp     |     |     |     |
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| Pro Pro Thr Trp Glu Ser Pro Gly Asp Asp Ala Ser Leu Glu His Glu |     |     |     |
| 35  | 40  | 45  |     |
| Ala Glu Met Asp Leu Gly Thr Pro Thr Tyr Asp Glu Asn Pro Met Lys |     |     |     |
| 50  | 55  | 60  |     |
| Ala Ser Lys Lys Pro Lys Thr Ala Glu Ala Asp Thr Ser Ser Glu Leu |     |     |     |
| 65  | 70  | 75  | 80  |
| Ala Lys Lys Ser Lys Glu Val Phe Arg Lys Glu Met Ser Gln Phe Ile |     |     |     |
| 85  | 90  | 95  |     |
| Val Gln Cys Leu Asn Pro Tyr Arg Lys Pro Asp Cys Lys Val Gly Arg |     |     |     |
| 100   | 105 | 110 |     |
| Ile Thr Thr Thr Glu Asp Phe Lys His Leu Ala Arg Lys Leu Thr His |     |     |     |
| 115   | 120 | 125 |     |
| Gly Val Met Asn Lys Glu Leu Lys Tyr Cys Lys Asn Pro Glu Asp Leu |     |     |     |
| 130   | 135 | 140 |     |
| Glu Cys Asn Glu Asn Val Lys His Lys Thr Lys Glu Tyr Ile Lys Lys |     |     |     |
| 145   | 150 | 155 | 160 |
| Tyr Met Gln Lys Phe Gly Ala Val Tyr Lys Pro Lys Glu Asp Thr Glu |     |     |     |
| 165   | 170 | 175 |     |
| Leu Glu   |     |     |     |

&lt;210&gt; 5237

&lt;211&gt; 1238

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5237

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&lt;210&gt; 5238

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5238

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Phe | Phe | Leu | Pro | Ser | Ser | Ile | Ser | Phe | Phe | Phe | Thr | Ile | Ser | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Pro | Lys | Ala | Ala | Pro | Tyr | Ser | Val | Gly | Ile | Ala | Asn | Val | Asp | Val | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Leu | Gly | Ile | Tyr | Ile | Ile | His | Arg | Ala | Val | Arg | Asn | Pro | Asp | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Glu | Ala | Arg | Ser | His | Met | His | Leu | Ala | Ser | Ala | Phe | Ala | Gly | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Phe | Gly | Asn | Ala | Gly | Val | His | Leu | Cys | His | Gly | Met | Ser | Tyr | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Ser | Gly | Leu | Val | Lys | Met | Tyr | Lys | Ala | Lys | Asp | Tyr | Asn | Val | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| His | Pro | Leu | Val | Pro | His | Gly | Leu | Ser | Val | Val | Leu | Thr | Ser | Pro | Ala |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Phe | Thr | Phe | Thr | Ala | Gln | Met | Phe | Pro | Glu | Arg | His | Leu | Glu | Met |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Glu | Ile | Leu | Gly | Ala | Asp | Thr | Arg | Thr | Ala | Arg | Ile | Gln | Asp | Ala |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Leu | Val | Leu | Ala | Asp | Thr | Leu | Arg | Lys | Phe | Leu | Phe | Asp | Leu | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Val | Asp | Asp | Gly | Leu | Ala | Ala | Val | Gly | Tyr | Ser | Lys | Ala | Asp | Ile | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Leu | Val | Lys | Gly | Thr | Leu | Pro | Gln | Glu | Arg | Val | Thr | Lys | Leu | Ala |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Arg | Pro | Gln | Ser | Glu | Glu | Asp | Leu | Ala | Ala | Leu | Phe | Glu | Ala | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Met | Lys | Leu | Tyr |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 210 |     |     |     |     |     |     |     |     |     |     |     |     |     |

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<212> DNA  
<213> Homo sapiens

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240  
acaaccggtg tagaagaaaa taaatgggga gtgaaataga agaaaagatg agggagggga  
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gtgctaatat ttactactaga gttttataga caactgtccc attccatccc aattccaatc  
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tggggaggcc caggaggtgg gagtctatcc ccccgttctg ccttttttaa cttccgcttc  
1200  
ttgctcttct tgattcgaga tctcttttcc ccaccccgag gagttggccg aggcctccga  
1260  
agcaccctaa agccagcccc agctcctggc cccaacttcc ggttctttcg gtccttcttt  
1320  
cgaggaggat gggagaggtc cccctgggaa aggggcacgg gggtaagagc agcagggggc  
1380  
cgggaggtat gtgtcagggg tgtgggggac aaaggagatg ccactttggg cccatccaga  
1440

tcaaagagag agtccttgag cttcatcttc tcaagcaagg tagcactgtc gggggcctgc  
 1500  
 agacgagaga aagtggacct tgggggtcct ggctgggtgg gacctgcttg agctggccctt  
 1560  
 ctcttgatg actttgcttt cttaacaaaa gtctggatgg ttcgaagatc tgagggggcc  
 1620  
 gagtcccagc catcactgtc ggccgcactc tctcctcgca atggagagct ggagccagag  
 1680  
 gctggccagt cactttcttc tttgctaggg ggaatgtaac cagcatatgc caaaacaaaa  
 1740  
 ctgcagaatt tgttgaaatc ctcaattggt ctcgccgtt tctctgggtg ctgagtctct  
 1800  
 ggcttaaggg tcggaggtgg atcttcggga ctgggctccg ccatggcttc cagcatcgcc  
 1860  
 ccctcccttc ctcccgggtc ggccgcccccc tccccggagc cggggatccc ggtgccgcct  
 1920  
 ctagtgtctg atgctccac tgcttcgtc cacagaagtg tccgcctcag cccggttgag  
 1980  
 actcgagtcc gctagccgct gccgccacct ccctctacca ctgcctccc cactccccga  
 2040  
 ccgggcccccc tccccccgcg g  
 2061

&lt;210&gt; 5240

&lt;211&gt; 226

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5240

Met Met Ser Ser Ser Met Thr Arg Ile Ser Pro Ser Leu Glu Leu Ala  
 1 5 10 15  
 Ser Pro Ser Trp Leu Val Ser Val Leu Pro Thr Ser Leu Leu Ser Leu  
 20 25 30  
 Ser Ala Gly Gly Thr Pro Ser Gly Cys Thr Val Ala Gly Gly Leu Gly  
 35 40 45  
 Ala Ser Gly Gly Val Gly Ser Thr Gly Thr Gly Ala Ser Pro Pro Thr  
 50 55 60  
 Thr Val Ala Ile Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser  
 65 70 75 80  
 Ser Ser Glu Ser Val Ser Leu Gly Gly Ala Trp Gly Gly Pro Gly Gly  
 85 90 95  
 Gly Ser Leu Ser Pro Arg Ser Ala Phe Phe Asn Phe Arg Phe Leu Leu  
 100 105 110  
 Phe Leu Ile Arg Asp Leu Phe Ser Pro Ser Pro Gly Val Gly Arg Gly  
 115 120 125  
 Leu Arg Ser Thr Pro Lys Pro Ala Pro Ala Pro Gly Pro Asn Phe Arg  
 130 135 140  
 Phe Phe Arg Ser Phe Phe Arg Gly Gly Trp Glu Arg Ser Pro Trp Glu  
 145 150 155 160  
 Arg Gly Thr Gly Val Arg Ala Ala Gly Gly Arg Glu Val Cys Val Arg  
 165 170 175  
 Asp Val Gly Asp Lys Gly Asp Ala Thr Leu Gly Pro Ser Arg Ser Lys  
 180 185 190  
 Arg Glu Ser Leu Ser Phe Ile Phe Ser Ser Lys Val Ala Leu Ser Gly

```

195          200          205
Ala Cys Arg Arg Glu Lys Val Asp Leu Gly Gly Pro Gly Trp Val Gly
  210          215          220
Pro Ala
225

<210> 5241
<211> 461
<212> DNA
<213> Homo sapiens

<400> 5241
gcggcccccgc atttcgagcc catggatgca ttatcacgt ttgttcctct gcgtgcctcc
60
ccctcaatat gccgggggtg taccatttc caagggatga cagcagggcc ccacagcgag
120
ccccaggtg atccggagcc ctcttcaccc cgtccaggg cgtttgcac tgctcccgcc
180
atcggcacac cttgttctgg ttgtgctggg acggcagcgc cccgtgaggt cagaggggtg
240
ctgtcacatc tgccaccag tgtggtctcc tggagatttc agtgggtcgg tgcttcgctt
300
ctcacctggc cagctctgag ttcagcctct cgctgtggg gaccctgca tcctggcgcc
360
agaaggagga ggaagaagcc accagaggtt gccaggaacc cagtggcagg ggaggtgggg
420
ctgagccagg cccgccgct gtgccgggag tcccacgcg g
461

<210> 5242
<211> 146
<212> PRT
<213> Homo sapiens

<400> 5242
Met Asp Ala Phe Ile Thr Phe Val Pro Leu Arg Ala Ser Pro Ser Ile
  1      5      10      15
Cys Arg Gly Cys Thr His Phe Gln Gly Met Thr Ala Gly Pro His Ser
  20      25      30
Glu Pro Gln Ala Asp Pro Glu Pro Ser Ser Ser Pro Ser Arg Ala Val
  35      40      45
Cys Thr Ala Pro Gly Ile Gly Thr Pro Cys Ser Gly Cys Ala Gly Thr
  50      55      60
Ala Ala Pro Arg Glu Val Arg Gly Leu Leu Ser His Leu Pro Pro Ser
  65      70      75      80
Val Val Ser Trp Arg Phe Gln Trp Phe Gly Ala Ser Leu Leu Thr Trp
  85      90      95
Pro Ala Leu Ser Ser Ala Ser Arg Leu Trp Gly Pro Leu His Pro Gly
  100     105     110
Gly Arg Arg Arg Lys Lys Pro Pro Glu Val Ala Arg Asn Pro Val
  115     120     125
Ala Gly Glu Val Gly Leu Ser Gln Ala Arg Pro Leu Cys Arg Glu Phe
  130     135     140
Pro Arg

```

145

&lt;210&gt; 5243

&lt;211&gt; 344

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5243

```

ngaattcctt gcattctctt ctgggccaaa agaataatga ttaaatttaa gaatcaaacc
60
tggctggacc ttacagacga gccatttggg cagaaggtaa ctgtggaccc tgacaactca
120
aattgcagtg aagaaagtgc taggttgtct ttgaagcttg gtgatgctgg aaacccaga
180
agtcttgcta taagattcat ccttaccat tacaacaagt tgtccatcca gagttggttt
240
agtttgcgcc gagtcgagat catttccaac aattcaatcc aagcagtctt taacccaact
300
ggcgtatatg ctccctctgg ttactcctac cgctgccaac gcgt
344

```

&lt;210&gt; 5244

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5244

```

Xaa Ile Pro Cys Ile Leu Phe Trp Ala Lys Arg Ile Met Ile Lys Phe
 1           5           10          15
Lys Asn Gln Thr Trp Leu Asp Leu Thr Asp Glu Pro Phe Gly Gln Lys
          20          25          30
Val Thr Val Asp Pro Asp Asn Ser Asn Cys Ser Glu Glu Ser Ala Arg
          35          40          45
Leu Ser Leu Lys Leu Gly Asp Ala Gly Asn Pro Arg Ser Leu Ala Ile
          50          55          60
Arg Phe Ile Leu Thr Asn Tyr Asn Lys Leu Ser Ile Gln Ser Trp Phe
65          70          75          80
Ser Leu Arg Arg Val Glu Ile Ile Ser Asn Asn Ser Ile Gln Ala Val
          85          90          95
Phe Asn Pro Thr Gly Val Tyr Ala Pro Ser Gly Tyr Ser Tyr Arg Cys
          100         105         110
Gln Arg

```

&lt;210&gt; 5245

&lt;211&gt; 483

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5245

```

nngccatgga aacgaaagcg gccaaagtaga gtcctgtcct gacgcgccgc ctcccgtggg
60
ctccggcccg ctaagcccg ggcggacaact atgctgaaag ccaagatcct cttcgtgggg
120

```

ccttgcgaga gtggaaaaac tgttttggcc aactttctga cagaatcttc tgacatcact  
 180  
 gaatacagcc caacccaagg agtgagggtt gagtcctgct ggccggccct gatgaaggat  
 240  
 gctcatggag tggatgatcgt cttcaatgct gacatcccaa gccaccggaa ggaaatggag  
 300  
 atgtggtatt cctgctttgt ccaacagccg tccttacagg acacacagtg tatgctaatt  
 360  
 gcacaccaca aaccaggctc tggagatgat aaaggaagcc tgtctttgtc gccacccttg  
 420  
 aacaagctga agctggtgca ctcaaacctg gaagatgacc ctgaggagat ccggatggaa  
 480  
 ttc  
 483

<210> 5246

<211> 131

<212> PRT

<213> Homo sapiens

<400> 5246

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Lys | Ala | Lys | Ile | Leu | Phe | Val | Gly | Pro | Cys | Glu | Ser | Gly | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Val | Leu | Ala | Asn | Phe | Leu | Thr | Glu | Ser | Ser | Asp | Ile | Thr | Glu | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Pro | Thr | Gln | Gly | Val | Arg | Phe | Glu | Ser | Cys | Trp | Pro | Ala | Leu | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Asp | Ala | His | Gly | Val | Val | Ile | Val | Phe | Asn | Ala | Asp | Ile | Pro | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| His | Arg | Lys | Glu | Met | Glu | Met | Trp | Tyr | Ser | Cys | Phe | Val | Gln | Gln | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Gln | Asp | Thr | Gln | Cys | Met | Leu | Ile | Ala | His | His | Lys | Pro | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser | Gly | Asp | Asp | Lys | Gly | Ser | Leu | Ser | Leu | Ser | Pro | Pro | Leu | Asn | Lys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Leu | Val | His | Ser | Asn | Leu | Glu | Asp | Asp | Pro | Glu | Glu | Ile | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Met | Glu | Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 130 |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 5247

<211> 1004

<212> DNA

<213> Homo sapiens

<400> 5247

nngccatgga aacgaaagcg gccaaagtaga gtcctgtcct gacgcgccgc ctcccgtagg  
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 ctccggcccg ctaagcccgcg gcggacaact atgctgaaag ccaagatcct ctccgtgggg  
 120  
 ccttgcgaga gtggaaaaac tgttttggcc aactttctga cagaatcttc tgacatcact  
 180  
 gaatacagcc caacccaagg agtgaggatc ctagaatttg agaaccgcga tgttaccage  
 240

aacaacaaag gcacgggctg tgaattcgag ctatgggact gtggtggcga tgctaagttt  
300  
gagtcctgct ggccggccct gatgaaggat gctcatggag tggatgatcgt cttcaatgct  
360  
gacatcccaa gccaccggaa ggaaatggag atgtggtatt cctgctttgt ccaacagccg  
420  
tccttacagg acacacagtg tatgctaatt gcacaccaca aaccaggctc tggagatgat  
480  
aaaggaagcc tgtctttgtc gccacccttg aacaagctga agctggtgca ctcaaactg  
540  
gaagatgacc ctgaggagat ccggatggaa ttcataaagt atttaaaaag cataatcaac  
600  
tccatgtctg agagcagaga caggaggag atgtcaatta tgacctagcc agccttcacc  
660  
tgggactgcc acatccccag tgaaatcagc atgtttctcg gtgcagatct gaaatcacat  
720  
ccagctcctg atgttttctt ctccctctga ctgcagagga agtggttcta cctgcaggaa  
780  
ggcacctgtc acacagggcg ttcactcaga ccactctgtc tctgccctga gttcagttga  
840  
gaaaatccta ttatcaaatt tggatttctt ggccccagaa cttcccaaag acctgtaaaa  
900  
tggagggtatt taccacctca catatgtcca gttaaacagt ttgtggactt gtaaccgtcg  
960  
cagcccaatg atacaacagt agtttaatca cgtgaaaaaa aaaa  
1004

&lt;210&gt; 5248

&lt;211&gt; 185

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5248

Met Leu Lys Ala Lys Ile Leu Phe Val Gly Pro Cys Glu Ser Gly Lys  
1 5 10 15  
Thr Val Leu Ala Asn Phe Leu Thr Glu Ser Ser Asp Ile Thr Glu Tyr  
20 25 30  
Ser Pro Thr Gln Gly Val Arg Ile Leu Glu Phe Glu Asn Pro His Val  
35 40 45  
Thr Ser Asn Asn Lys Gly Thr Gly Cys Glu Phe Glu Leu Trp Asp Cys  
50 55 60  
Gly Gly Asp Ala Lys Phe Glu Ser Cys Trp Pro Ala Leu Met Lys Asp  
65 70 75 80  
Ala His Gly Val Val Ile Val Phe Asn Ala Asp Ile Pro Ser His Arg  
85 90 95  
Lys Glu Met Glu Met Trp Tyr Ser Cys Phe Val Gln Gln Pro Ser Leu  
100 105 110  
Gln Asp Thr Gln Cys Met Leu Ile Ala His His Lys Pro Gly Ser Gly  
115 120 125  
Asp Asp Lys Gly Ser Leu Ser Leu Ser Pro Pro Leu Asn Lys Leu Lys  
130 135 140  
Leu Val His Ser Asn Leu Glu Asp Asp Pro Glu Glu Ile Arg Met Glu  
145 150 155 160  
Phe Ile Lys Tyr Leu Lys Ser Ile Ile Asn Ser Met Ser Glu Ser Arg

165 170 175  
 Asp Arg Glu Glu Met Ser Ile Met Thr  
 180 185

<210> 5249  
 <211> 653  
 <212> DNA  
 <213> Homo sapiens

<400> 5249  
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 60  
 taccggggct ggctagtcac gggggagccc agtagagagg agtataaaat ccagtccttt  
 120  
 gatgcagaga cccagcagct gctgaagaca gcactcaaag atccgggtgc tgtggacttg  
 180  
 gagaaagtgg ccaatgtgat tgtggaccat tctctgcagg actgtgtgtt cagcaaggaa  
 240  
 gcaggacgca tgtgtctacgc catcattcag gcagagagta aacaagcagg ccagagtgtc  
 300  
 ttccgcagtg gactcctcaa ccggctgcag caggagtacc aggctcggga gcagctgcga  
 360  
 gcacgctccc tgcagggtcg ggtctgctat gtcaccttta tctgcaacat ctttgactac  
 420  
 ctgagggtga acaacatgcc catgatggcc ctggtgaacc ctgtctatga ctgcctcttc  
 480  
 cggttgcccc agccagacag tttgagcaag gaggaggagg tggactgttt ggtgctgcag  
 540  
 ctgcaccggg ttggggagca gctggagaaa atgaatgggc agcgcatgga tgagctcttt  
 600  
 gtgctgatcc gggatggctt cctgctccca actggcctca gctccctggc cca  
 653

<210> 5250  
 <211> 217  
 <212> PRT  
 <213> Homo sapiens

<400> 5250  
 Xaa Arg Val Arg Ala Thr Gly Pro Ala Gly Ala Val Leu Ile Pro Ser  
 1 5 10 15  
 Pro Val Lys Ser Tyr Arg Gly Trp Leu Val Met Gly Glu Pro Ser Arg  
 20 25 30  
 Glu Glu Tyr Lys Ile Gln Ser Phe Asp Ala Glu Thr Gln Gln Leu Leu  
 35 40 45  
 Lys Thr Ala Leu Lys Asp Pro Gly Ala Val Asp Leu Glu Lys Val Ala  
 50 55 60  
 Asn Val Ile Val Asp His Ser Leu Gln Asp Cys Val Phe Ser Lys Glu  
 65 70 75 80  
 Ala Gly Arg Met Cys Tyr Ala Ile Ile Gln Ala Glu Ser Lys Gln Ala  
 85 90 95  
 Gly Gln Ser Val Phe Arg Arg Gly Leu Leu Asn Arg Leu Gln Gln Glu  
 100 105 110  
 Tyr Gln Ala Arg Glu Gln Leu Arg Ala Arg Ser Leu Gln Gly Trp Val

```

      115      120      125
Cys Tyr Val Thr Phe Ile Cys Asn Ile Phe Asp Tyr Leu Arg Val Asn
  130      135      140
Asn Met Pro Met Met Ala Leu Val Asn Pro Val Tyr Asp Cys Leu Phe
  145      150      155      160
Arg Leu Ala Gln Pro Asp Ser Leu Ser Lys Glu Glu Glu Val Asp Cys
      165      170      175
Leu Val Leu Gln Leu His Arg Val Gly Glu Gln Leu Glu Lys Met Asn
      180      185      190
Gly Gln Arg Met Asp Glu Leu Phe Val Leu Ile Arg Asp Gly Phe Leu
      195      200      205
Leu Pro Thr Gly Leu Ser Ser Leu Ala
  210      215

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<210> 5251  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

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<400> 5251
atgaacaggc gtgttatatc tgctaaccac tatctagggg gcacctccaa cggctatgcc
60
caccacagcg ggacggcact tcattatgac gatgtcccggt gcatcaacgg ctcgggggaa
120
ccggaagacg gctttcctgc tttctgcagc agaagcttgg gagaagaagg ggcttttgaa
180
aaccacggcc tgtacgataa ctggccgcct ccgcacatct ttgcccgcta ctctcctgct
240
gacagaaagg cctctaggct gtctgctgac aagctgtcct ctaaccatta caaataccct
300
gcctctgctc agtctgtcac taatacctct tctgtgggga gggcgctctc cgggctcaac
360
tcgcagcctc ag
372

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<210> 5252  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

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<400> 5252
Met Asn Arg Arg Val Ile Ser Ala Asn Pro Tyr Leu Gly Gly Thr Ser
  1      5      10      15
Asn Gly Tyr Ala His Pro Ser Gly Thr Ala Leu His Tyr Asp Asp Val
      20      25      30
Pro Cys Ile Asn Gly Ser Gly Glu Pro Glu Asp Gly Phe Pro Ala Phe
      35      40      45
Cys Ser Arg Ser Leu Gly Glu Gly Ala Phe Glu Asn Pro Gly Leu
      50      55      60
Tyr Asp Asn Trp Pro Pro His Ile Phe Ala Arg Tyr Ser Pro Ala
      65      70      75      80
Asp Arg Lys Ala Ser Arg Leu Ser Ala Asp Lys Leu Ser Ser Asn His
      85      90      95
Tyr Lys Tyr Pro Ala Ser Ala Gln Ser Val Thr Asn Thr Ser Ser Val

```

100                      105                      110  
 Gly Arg Ala Ser Leu Gly Leu Asn Ser Gln Pro Gln  
       115                      120

<210> 5253

<211> 898

<212> DNA

<213> Homo sapiens

<400> 5253

ngaatatcca tgcagcgatc ctcaaggaca aactctgctg ctttttctct ttgtggattt  
 60  
 ccacagtgc tttccagtc agcaaatgga aatctgggga gtctatactt tgctcacaac  
 120  
 tcatctcaat gccatccttg tggagagcca cagtgtagt caaggttcca tccaattcac  
 180  
 tgttgacaag gtcttgagc aacatcacca ggctgccaag gctcagcaga aactacaggc  
 240  
 ctactctca gtggctgtga actccatcat gagtattctg actggaagca ctaggagcag  
 300  
 cttccgaaag atgtgtctcc agacccttca agcagctgac acacaagagt tcaggaccaa  
 360  
 actgcacaaa gtatttcgtg agatcaccca acaccaattt cttcaccact gctcatgtga  
 420  
 ggtgaagcag cagctaaccc tagaaaaaaa ggactcagcc cagggcactg aggacgcacc  
 480  
 tgataacagc agcctggagc tcctagcaga taccagcggg caagcagaaa acaagaggct  
 540  
 caagaggggc agcccccgca tagaggagat gcgagctctg cgctctgcca gggccccgag  
 600  
 cccgtcagag gccgccccgc gccgcccga agccaccgcg gccccctca ctctagagg  
 660  
 aagggagcac cgcgaggctc acggcagggc cctggcgccg ggcagggcga gcctcggaag  
 720  
 ccgctggag gacgtgctgt ggctgcagga ggtctccaac ctgtcagagt ggctgagtcc  
 780  
 cagccctggg ccctgagccg ggtccccttc cgcaagcgcc caccgatccg gaggctgcgg  
 840  
 gcagccgtta tcccgtggtt taataaagct gccgcgcgct caaaaaaaaa aaaaaaaaa  
 898

<210> 5254

<211> 56

<212> PRT

<213> Homo sapiens

<400> 5254

Gln Gln Pro Gly Ala Pro Ser Arg Tyr Gln Arg Ala Ser Arg Lys Gln  
 1                      5                      10                      15  
 Glu Ala Gln Glu Gly Gln Pro Pro His Arg Gly Asp Ala Ser Ser Ala  
       20                      25                      30  
 Leu Cys Gln Gly Pro Glu Pro Val Arg Gly Arg Pro Ala Pro Pro Gly  
       35                      40                      45  
 Ser His Arg Gly Pro Pro His Ser

50 55

<210> 5255  
 <211> 1410  
 <212> DNA  
 <213> Homo sapiens

<400> 5255  
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 caaccccaga tccccatgcc tcgagccctg gatctccaag ctcagctgct ggattctgga  
 120  
 tgtcaacaaa cctcaccact ggatcctgac aaccacaatg cctggatcct ggggccccca  
 180  
 tctctggatc ccagatcccc tctctccacc cactggatc ctgcattggt ttttggtttt  
 240  
 ttgttttttt ttaacctcga cactgggtct cagatccttc tgctgactgc cagatccctg  
 300  
 catttcaagc actacgcctt ccacccccag gactggatc ccagattccc aagccttcac  
 360  
 ccaccagatt ctggctccta aaacaagtgc gggggcccca gtggcacagc aagtggatcc  
 420  
 tggcaactgc agctgctgga ttccagattc tgggtcccca atccctctgc ccagtccctc  
 480  
 aatgttgaaa cctcatctct tgaaggcaga tctgatatt ccaaggcact gaatcccaag  
 540  
 ccctgaatcc cgggtttctg atctgaatct tccaggcgcc ggggtcccaa tggtcaggcc  
 600  
 ccaagtctag atcctggcag cccagtcaca gactatccca cacacactgg tgcccagagc  
 660  
 cggtttctca tgacatgaaa ttgcatggtc gagggagtct gtggggaagg aagcccaggt  
 720  
 cctggctgca acctgcacgg atgctggatt cccctcacc ccacctctgc atggccaccc  
 780  
 cctcccagcc ctgtggggaa actgttcctt ggaaccactc cactccctgc atccccacac  
 840  
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 900  
 ctccaagggg tccgaggaat cactcactcc tggaggctgg caaggagaca gtctgaggcc  
 960  
 agggacacat gaagggatgt cccaccccca gcactatcag ggctcccca ggcttccaga  
 1020  
 gttgaaagcc aggagaaaat cggcaaagac cacccttccc taaaccaag cacccaatga  
 1080  
 tgcaaaaaac aaaaacaaaa aaaaccacca aatccccaaa ttcattccag atctattttt  
 1140  
 ctaccagaga gaggagcaaa gtcctectcc cctgcgccct tacattctgc acttcatagt  
 1200  
 tggattctga gcttaggatc atctggagac cccatggagg gacttggaaa ggggaactgg  
 1260  
 gatttgggga ggggctggag gacttccgca cgcttccacc tccttcgacc tccactgcgc  
 1320  
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 1380

aagctcttta aaaaaaaaaa aaaaaaaaaa  
1410

<210> 5256  
<211> 95  
<212> PRT  
<213> Homo sapiens

<400> 5256  
Met Val Glu Gly Val Cys Gly Glu Gly Ser Pro Gly Pro Gly Cys Asn  
1 5 10 15  
Leu His Gly Cys Trp Ile Pro Pro His Pro Thr Ser Ala Trp Pro Pro  
20 25 30  
Pro Pro Ser Pro Val Gly Lys Leu Phe Pro Gly Thr Thr Pro Leu Pro  
35 40 45  
Ala Ser Pro His Phe Thr Ala Ser Ser Ile Pro Leu Pro Pro Ser Arg  
50 55 60  
Arg Ile Val Pro Arg Ala Val Phe Leu Gln Gly Val Arg Gly Ile Thr  
65 70 75 80  
His Ser Trp Arg Leu Ala Arg Arg Gln Ser Glu Ala Arg Asp Thr  
85 90 95

<210> 5257  
<211> 1366  
<212> DNA  
<213> Homo sapiens

<400> 5257  
ncaggctctg tgttggttgg agcgagcatg tgggtctgca gtacctgtg gcgggtgcga  
60  
accccgcccg gcagtggcgg gggcctgctc ccagcttctg gctgtcacgg acctgccgcc  
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&lt;210&gt; 5258

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5258

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Val | Cys | Ser | Thr | Leu | Trp | Arg | Val | Arg | Thr | Pro | Pro | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Gly | Gly | Leu | Leu | Pro | Ala | Ser | Gly | Cys | His | Gly | Pro | Ala | Ala | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Tyr | Ser | Ala | Ser | Ala | Glu | Pro | Ala | Arg | Val | Arg | Gly | Leu | Val | Tyr |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | His | His | Gly | Asp | Pro | Ala | Lys | Val | Val | Glu | Leu | Lys | Asn | Leu | Glu |
| 50  |     |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Ala | Ala | Val | Arg | Gly | Ser | Asp | Val | Arg | Val | Lys | Met | Leu | Ala | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Ile | Asn | Pro | Ser | Asp | Ile | Asn | Met | Ile | Gln | Gly | Asn | Tyr | Gly | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Pro | Glu | Leu | Pro | Ala | Val | Gly | Gly | Asn | Glu | Gly | Val | Ala | Gln | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Ala | Val | Gly | Ser | Asn | Val | Thr | Gly | Leu | Lys | Pro | Gly | Asp | Trp | Val |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ile | Pro | Ala | Asn | Ala | Gly | Leu | Asp | Ser | Gly | Thr | Trp | Arg | Thr | Glu | Ala |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Val | Phe | Ser | Glu | Glu | Ala | Leu | Ile | Gln | Val | Pro | Ser | Asp | Ile | Pro | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gln | Ser | Ala | Ala | Thr | Leu | Gly | Val | Asn | Pro | Cys | Thr | Ala | Tyr | Arg | Met |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Met | Asp | Phe | Glu | Gln | Leu | Gln | Pro | Gly | Asp | Ser | Val | Ile | Gln | Asn |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Ser | Asn | Ser | Gly | Val | Gly | Gln | Ala | Val | Ile | Gln | Ile | Ala | Ala | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Gly | Leu | Arg | Thr | Ile | Asn | Val | Val | Arg | Asp | Arg | Pro | Asp | Ile | Gln |

|                     |                                 |                     |
|---------------------|---------------------------------|---------------------|
| 210                 | 215                             | 220                 |
| Lys Leu Ser Asp Arg | Leu Lys Ser Leu Gly Ala         | Glu His Val Ile Thr |
| 225                 | 230                             | 235                 |
| Glu Glu Glu Leu Arg | Arg Pro Glu Met Lys Asn Phe Phe | Lys Asp Met         |
| 245                 | 250                             | 255                 |
| Pro Gln Pro Arg Leu | Ala Leu Asn Cys Val Gly Gly     | Lys Ser Ser Thr     |
| 260                 | 265                             | 270                 |
| Glu Leu Leu Arg Gln | Leu Ala Arg Gly Gly Thr Met     | Val Thr Tyr Gly     |
| 275                 | 280                             | 285                 |
| Gly Met Ala Lys Gln | Pro Val Val Ala Ser Val         | Ser Leu Leu Ile Phe |
| 290                 | 295                             | 300                 |
| Lys Asp Leu Lys Leu | Arg Gly Phe Trp Leu Ser         | Gln Trp Lys Lys Asp |
| 305                 | 310                             | 315                 |
| His Ser Pro Asp Gln | Phe Lys Glu Leu Ile Leu Thr     | Leu Cys Asp Leu     |
| 325                 | 330                             | 335                 |
| Ile Arg Arg Gly Gln | Leu Thr Ala Pro Ala Cys         | Ser Gln Val Pro Leu |
| 340                 | 345                             | 350                 |
| Gln Asp Tyr Gln Ser | Ala Leu Glu Ala Ser Met         | Lys Pro Phe Ile Ser |
| 355                 | 360                             | 365                 |
| Ser Lys Gln Ile Leu | Thr Met                         |                     |
| 370                 | 375                             |                     |

&lt;210&gt; 5259

&lt;211&gt; 306

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5259

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&lt;210&gt; 5260

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5260

|   |
|---|
| Met Thr Glu Glu Lys Thr Leu Thr Ala Glu Gly Leu Val Lys Leu Leu |
| 1 5 10 15   |
| Gln Ala Val Lys Thr Thr Phe Pro Asn Leu Gly Leu Leu Leu Glu Lys |
| 20 25 30  |
| Leu Gln Lys Ser Ala Thr Leu Pro Ser Thr Thr Val Gln Pro Ser Pro |
| 35 40 45  |
| Asp Asp Tyr Gly Thr Glu Leu Leu Arg Arg Tyr His Glu Asn Leu Ser |

|   |    |    |
|---|----|----|
| 50  | 55 | 60 |
| Glu Ile Phe Thr Asp Asn Gln Ile Leu Leu Lys Met Ile Ser His Met |    |    |
| 65  | 70 | 75 |
| Thr Ser Leu   |    | 80 |

&lt;210&gt; 5261

&lt;211&gt; 2394

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5261

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&lt;210&gt; 5262

&lt;211&gt; 275

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5262

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ala | Met | Ala | Thr | Pro | Ala | Arg | Pro | Gly | Glu | Ala | Glu | Asp | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Glu | Arg | Pro | Leu | Gln | Asp | Glu | Pro | Ala | Ala | Ala | Ala | Ala | Gly | Pro |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Gly | Lys | Gly | Arg | Phe | Leu | Val | Arg | Ile | Cys | Phe | Gln | Gly | Asp | Glu | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala | Cys | Pro | Thr | Arg | Asp | Phe | Val | Val | Gly | Ala | Leu | Ile | Leu | Arg | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

Ile Gly Met Asp Pro Ser Asp Ile Tyr Ala Val Ile Gln Ile Pro Gly  
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 Phe Leu Arg Val Tyr Glu Glu Lys Arg Glu Gln Glu Asp Cys Trp Glu  
 100 105 110  
 Asn Phe Val Val Leu Gly Arg Ser Lys Ser Ser Leu Lys Thr Leu Phe  
 115 120 125  
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 130 135 140  
 Leu Lys Arg His Cys Asp Val Leu Ala Val Pro Val Lys Val Thr Asp  
 145 150 155 160  
 Arg Phe Gly Ile Trp Thr Gly Glu Tyr Lys Cys Glu Ile Glu Leu Arg  
 165 170 175  
 Gln Gly Glu Gly Gly Val Arg His Leu Pro Gly Ala Phe Phe Leu Gly  
 180 185 190  
 Ala Glu Arg Gly Tyr Ser Trp Tyr Lys Gly Gln Pro Lys Thr Cys Phe  
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 Ala Gly His  
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<400> 5264

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 Trp His Phe Asn Ile Asn Gln Lys Arg Phe Ser Lys Ala Gln Pro Thr  
 35 40 45  
 Cys Phe Leu Leu Ile Leu Pro Cys Gln Lys Ile Met Cys Ile Tyr  
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 Phe Gln Leu Leu Leu Met Glu Thr Thr Ala Met Leu Asp Leu Leu Val  
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 Ile Arg Gln Leu Lys Ser Ala Leu Ser Gln Thr Leu Leu Cys His Leu  
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&lt;210&gt; 5265

&lt;211&gt; 3203

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5265

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<212> PRT

<213> Homo sapiens

<400> 5266

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| Met | Gly | Thr | Pro | Arg | Ala | Gln | His | Pro | Pro | Pro | Gln | Leu | Leu | Phe |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu | Ile | Leu | Leu | Ser | Cys | Pro | Trp | Ile | Gln | Gly | Leu | Pro | Leu | Lys |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     | Glu |
| Glu | Glu | Ile | Leu | Pro | Glu | Pro | Gly | Ser | Glu | Thr | Pro | Thr | Val | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     | Ser |
| Glu | Ala | Leu | Ala | Glu | Leu | Leu | His | Gly | Ala | Leu | Leu | Arg | Arg | Gly |
|     |     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     | Pro |
| Glu | Met | Gly | Tyr | Leu | Pro | Gly | Pro | Pro | Leu | Gly | Pro | Glu | Gly | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Glu | Glu | Thr | Thr | Thr | Thr | Ile | Ile | Thr | Thr | Thr | Thr | Val | Thr | Thr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Val | Thr | Ser | Pro | Val | Leu | Cys | Asn | Asn | Asn | Ile | Ser | Glu | Gly | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 | Gly |
| Tyr | Val | Glu | Ser | Pro | Asp | Leu | Gly | Ser | Pro | Val | Ser | Arg | Thr | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     | Gly |
| Leu | Leu | Asp | Cys | Thr | Tyr | Ser | Ile | His | Val | Tyr | Pro | Gly | Tyr | Gly |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     | Ile |
| Glu | Ile | Gln | Val | Gln | Thr | Leu | Asn | Leu | Ser | Gln | Glu | Glu | Leu | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |
| Val | Leu | Ala | Gly | Gly | Ser | Pro | Gly | Leu | Ala | Pro | Arg | Leu | Leu | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Ser | Ser | Met | Leu | Gly | Glu | Gly | Gln | Val | Leu | Arg | Ser | Pro | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 | Asn |
| Arg | Leu | Leu | Leu | His | Phe | Gln | Ser | Pro | Arg | Val | Pro | Arg | Gly | Gly |

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<211> 885

<212> DNA

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| Phe | Gly | Thr | Arg | Gly | Thr | Met | Leu | Gln | Gly | Glu | Tyr | Thr | Tyr | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Gln | Val | Tyr | Asp | Pro | Thr | Thr | Thr | Tyr | Leu | Gly | Ala | Pro | Val | Phe |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Ala | Pro | Gln | Thr | Tyr | Ala | Ala | Ile | Pro | Ser | Leu | His | Phe | Pro | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Lys | Gly | His | Leu | Ser | Asn | Arg | Ala | Ile | Ile | Arg | Ala | Pro | Ser | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Glu | Ile | Tyr | Met | Asn | Val | Pro | Val | Gly | Ala | Ala | Gly | Val | Arg | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Gly | Gly | Arg | Gly | Tyr | Leu | Ala | Tyr | Thr | Gly | Leu | Gly | Arg | Gly | Tyr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Gln | Val | Lys | Gly | Asp | Lys | Arg | Glu | Asp | Lys | Leu | Tyr | Asp | Ile | Leu | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Met | Glu | Leu | Thr | Pro | Met | Asn | Pro | Val | Thr | Leu | Lys | Pro | Gln | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Lys | Leu | Ala | Pro | Gln | Ile | Leu | Glu | Glu | Ile | Cys | Gln | Lys | Asn | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Trp | Gly | Gln | Pro | Val | Tyr | Gln | Leu | His | Ser | Ala | Ile | Gly | Gln | Asp | Gln |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Gln | Leu | Phe | Leu | Tyr | Lys | Ile | Thr | Ile | Pro | Ala | Leu | Ala | Ser | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Asn | Pro | Ala | Ile | His | Pro | Phe | Thr | Pro | Pro | Lys | Leu | Ser | Ala | Phe | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Glu | Ala | Lys | Thr | Tyr | Ala | Ala | Glu | Tyr | Thr | Leu | Gln | Thr | Leu | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ile | Pro | Thr | Asp | Gly | Gly | Asp | Gly | Thr | Met | Ala | Thr | Ala | Ala | Ala | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Thr | Ala | Phe | Pro | Gly | Tyr | Ala | Val | Pro | Asn | Ala | Thr | Ala | Pro | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Ala | Ala | Gln | Leu | Lys | Gln | Ala | Val | Thr | Leu | Gly | Gln | Asp | Leu | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Ala | Tyr | Thr | Thr | Tyr | Glu | Val | Tyr | Pro | Thr | Phe | Ala | Val | Thr | Ala | Arg |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
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Thr Leu Gln Lys Leu Val Leu Leu Gly Val Asp Leu Ser Lys Ile Glu
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Lys His Pro Glu Ala Ala Asn Leu Leu Leu Arg Leu Asp Phe Glu Lys
          85           90           95
Asp Ile Lys Gln Met Leu Leu Phe Leu Lys Asp Val Gly Ile Glu Asp
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Asn Gln Leu Gly Ala Phe Leu Thr Lys Asn His Ala Ile Phe Ser Glu
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Asp Leu Glu Asn Leu Lys Thr Arg Val Ala Tyr Leu His Ser Lys Asn
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Phe Ser Lys Ala Asp Val Ala Gln Met Val Arg Lys Ala Pro Phe Leu
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Lys Glu Leu Glu Leu Ser Val Lys Lys Thr Arg Asp Leu Val Val Arg
          180          185          190
Leu Pro Arg Leu Leu Thr Gly Ser Leu Glu Pro Val Lys Glu Asn Met
          195          200          205
Lys Val Tyr Arg Leu Glu Leu Gly Phe Lys His Asn Glu Ile Gln His
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Met Ile Thr Arg Ile Pro Lys Met Leu Thr Ala Asn Lys Met Lys Leu
          225          230          235          240
Thr Glu Thr Phe Asp Phe Val His Asn Val Met Ser Ile Pro His His
          245          250          255
Ile Ile Val Lys Phe Pro Gln Val Phe Asn Thr Arg Leu Phe Lys Val
          260          265          270
Lys Glu Arg His Leu Phe Leu Thr Tyr Leu Gly Arg Ala Gln Tyr Asp
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Pro Ala Lys Pro Asn Tyr Ile Ser Leu Asp Lys Leu Val Ser Ile Pro
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Glu Lys Phe Leu Lys Thr Leu
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&lt;210&gt; 5271

&lt;211&gt; 1185

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5271

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&lt;210&gt; 5272

&lt;211&gt; 385

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5272

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Leu | Thr | Thr | Leu | Phe | Lys | Tyr | Ile | Asp | Glu | Asn | Gln | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Tyr | Ile | Lys | Pro | Val | Gln | Leu | Gln | Gln | Pro | Gln | Arg | Val | Ser | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Cys | Gly | Asn | Val | Thr | Gly | Ala | Ser | Ser | Pro | Ser | Arg | Thr | Pro | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Asn | Pro | Ser | Leu | Leu | Leu | Val | His | Lys | Gln | Lys | Leu | Ala | Lys | Trp |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Ala | Ile | Gln | Ser | Val | Ser | Ala | Trp | Pro | Glu | Lys | Arg | Gly | Glu | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Arg | Met | Met | Glu | Val | Ala | Ala | Ala | Asp | Val | Lys | Gln | Leu | Gly | Gly |

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 4580

&lt;210&gt; 5274

&lt;211&gt; 185

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5274

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Gly | Ser | Phe | Glu | Leu | Ser | Val | Gln | Asp | Leu | Asn | Asp | Leu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Asp | Gly | Ser | Gly | Cys | Tyr | Ser | Leu | Pro | Ser | Gln | Pro | Cys | Asn | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Thr | Pro | Arg | Ile | Tyr | Val | Gly | Asn | Ala | Ser | Val | Ala | Gln | Asp | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Lys | Leu | Gln | Lys | Leu | Gly | Ile | Thr | His | Val | Leu | Asn | Ala | Ala | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Arg | Ser | Phe | Met | His | Val | Asn | Thr | Asn | Ala | Asn | Phe | Tyr | Lys | Asp |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| Ser | Gly | Ile | Thr | Tyr | Leu | Gly | Ile | Lys | Ala | Asn | Asp | Thr | Gln | Glu | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Leu | Ser | Ala | Tyr | Phe | Glu | Arg | Ala | Ala | Asp | Phe | Ile | Asp | Gln | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Ala | Gln | Lys | Asn | Gly | Arg | Val | Leu | Val | His | Cys | Arg | Glu | Gly | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Arg | Ser | Pro | Thr | Leu | Val | Ile | Ala | Tyr | Leu | Met | Met | Arg | Gln | Lys |
|     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Met | Asp | Val | Lys | Ser | Ala | Leu | Ser | Ile | Val | Arg | Gln | Asn | Arg | Glu | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Pro | Asn | Asp | Gly | Phe | Leu | Ala | Gln | Leu | Cys | Gln | Leu | Asn | Asp | Arg |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Ala | Lys | Glu | Gly | Lys | Leu | Lys | Pro |     |     |     |     |     |     |     |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     |     |     |

&lt;210&gt; 5275

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5275

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120
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180
tatctgctac ggtaacttca tcagcccgcc aagatggcga tgcaagcggc caagagggcg
240
aacattcgac ttccacctga agtaaactcg atattgtata taagaaattt gccatacaaa
300
atcacagctg aagaaatgta tgatatattt gggaaatatg gacctattcg tcaaatcaga
360
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420
gccaagaatg catgtgatca cctatcgggg ttcaatgttt gtaacagata ccttgtggtt
480
ttgtactata atgccaacag ggcatttcag aagatggaca caaagaagaa ggaggaacag
540
ttgaagcttc tcaaggagaa atatggcatc aacacagatc caccaaaata aatgttttct
600
acattttcat ttggactaaa tcccacgaat gacaactacc accttttttt cctttttaat
660
taatactaaa tattgtgatt tcttatttga ggttcaaaat gacctgcttg aaactttgat
720
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780
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810

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&lt;210&gt; 5276

&lt;211&gt; 125

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5276

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Met Ala Met Gln Ala Ala Lys Arg Ala Asn Ile Arg Leu Pro Pro Glu
 1           5           10           15
Val Asn Arg Ile Leu Tyr Ile Arg Asn Leu Pro Tyr Lys Ile Thr Ala
      20           25           30
Glu Glu Met Tyr Asp Ile Phe Gly Lys Tyr Gly Pro Ile Arg Gln Ile
      35           40           45
Arg Val Gly Asn Thr Pro Glu Thr Arg Gly Thr Ala Tyr Val Val Tyr
      50           55           60
Glu Asp Ile Phe Asp Ala Lys Asn Ala Cys Asp His Leu Ser Gly Phe
      65           70           75           80
Asn Val Cys Asn Arg Tyr Leu Val Val Leu Tyr Tyr Asn Ala Asn Arg
      85           90           95
Ala Phe Gln Lys Met Asp Thr Lys Lys Lys Glu Glu Gln Leu Lys Leu
      100          105          110
Leu Lys Glu Lys Tyr Gly Ile Asn Thr Asp Pro Pro Lys
      115          120          125

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<210> 5277

<211> 612

<212> DNA

<213> Homo sapiens

<400> 5277

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120
acctgtccc tgcccttcta catctcccag tgctggaccc tcggctccgt cctggcgctc
180
acctggaccg tctggcgctt cttcctgcgg gacatcacat tgaggtacaa ggagaccg
240
tggcagaagt ggcagaacaa ggatgaccag ggcagcaccg tcggcaacgg ggaccagcac
300
ccactggggc tggacgaaga cctgctgggg cctgggggtgg ccgagggcga gggagcacca
360
actccaaact gacctgggce gtggtgcct cgtgagcctc ccagagccca ggcctccgtg
420
gcctcctcct gtgtgagtc caccaggagc cacgtgcccg gccttgccct caaggttttt
480
tgcttttctc ctgtgcacct ggcgaggctg aaggcgaggg gtggaggagg cccagcaca
540
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600
tgtgtgtacg tg
612

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<210> 5278

<211> 123

<212> PRT

<213> Homo sapiens

&lt;400&gt; 5278

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Ile Tyr Asp Phe Met Asp Asp Pro Lys Pro His Lys Lys Leu Gly Pro
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Gln Ala Trp Leu Val Ala Ala Ile Thr Ala Thr Glu Leu Leu Ile Val
20      25      30
Val Lys Tyr Asp Pro His Thr Leu Thr Leu Ser Leu Pro Phe Tyr Ile
35      40      45
Ser Gln Cys Trp Thr Leu Gly Ser Val Leu Ala Leu Thr Trp Thr Val
50      55      60
Trp Arg Phe Phe Leu Arg Asp Ile Thr Leu Arg Tyr Lys Glu Thr Arg
65      70      75      80
Trp Gln Lys Trp Gln Asn Lys Asp Asp Gln Gly Ser Thr Val Gly Asn
85      90      95
Gly Asp Gln His Pro Leu Gly Leu Asp Glu Asp Leu Leu Gly Pro Gly
100      105      110
Val Ala Glu Gly Glu Gly Ala Pro Thr Pro Asn
115      120

```

&lt;210&gt; 5279

&lt;211&gt; 1225

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5279

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cctgactttc agctgcaggc catgattcag gcagcaggaa agcttgtgtt gattgataaa
120
ctactcccta agctgattgc aggtggccac aaagtactca tcttctccca gatggtgcgc
180
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240
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300
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360
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420
gcccgatgtc accgcatagg ccagagcaaa gctgtgaagg tgtatcgctt catcactcga
480
aattcctacg agcgcgagat gtttgacaag gccagcctaa agctggggct ggacaaggct
540
gttcttcaga catcaaccga aaggcgaggc ccaatgggta cagcactctc aaaaatggag
600
gtggaggacc tactccgaa aggtgcttat ggagccttaa tggatgaaga agatgaaggc
660
tccaagtctt gtgaagaaga catagaccag attctgcaga ggcgaacgca caccatcacc
720
atccagtctg aggggaaagg gtccactttt gccaggcta gctttgtggc ttcaggaaac
780
agaacagata tttccttaga tgatcctaac ttttggcaga aatgggctaa aatagctgaa
840
ctagacactg aagcaaagaa tgaaaaggaa agcttagtga tcgaccgacc tcgctgaga
900

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 960  
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 1020  
 tacctccgag cggagtgctt cggggtagag aagaacctgc tcatctttgg ctggggccgg  
 1080  
 tggaaggaca tcctgactca tggccgattc aagtggcatc tgaacgagaa ggacatggag  
 1140  
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 1200  
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 1225

<210> 5280

<211> 408

<212> PRT

<213> Homo sapiens

<400> 5280

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asn | Gly | Ala | Glu | Glu | Lys | Ile | Leu | Glu | Asp | Phe | Arg | Lys | Thr | His |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Pro | Asp | Ala | Pro | Asp | Phe | Gln | Leu | Gln | Ala | Met | Ile | Gln | Ala | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Lys | Leu | Val | Leu | Ile | Asp | Lys | Leu | Leu | Pro | Lys | Leu | Ile | Ala | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | His | Lys | Val | Leu | Ile | Phe | Ser | Gln | Met | Val | Arg | Cys | Leu | Asp | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Glu | Asp | Tyr | Leu | Ile | Gln | Arg | Arg | Tyr | Thr | Tyr | Glu | Arg | Ile | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Arg | Val | Arg | Gly | Asn | Leu | Arg | Gln | Ala | Ile | Asp | Arg | Phe | Ser |     |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Lys | Pro | Asp | Ser | Asp | Arg | Phe | Val | Phe | Leu | Leu | Cys | Thr | Arg | Ala | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Leu | Gly | Ile | Asn | Leu | Thr | Ala | Ala | Asp | Thr | Cys | Ile | Ile | Phe | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Asp | Trp | Asn | Pro | Gln | Asn | Asp | Leu | Gln | Ala | Gln | Ala | Arg | Cys | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Ile | Gly | Gln | Ser | Lys | Ala | Val | Lys | Val | Tyr | Arg | Leu | Ile | Thr | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asn | Ser | Tyr | Glu | Arg | Glu | Met | Phe | Asp | Lys | Ala | Ser | Leu | Lys | Leu | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Asp | Lys | Ala | Val | Leu | Gln | Thr | Ser | Thr | Glu | Arg | Ala | Ala | Pro | Met |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Gly | Thr | Ala | Leu | Ser | Lys | Met | Glu | Val | Glu | Asp | Leu | Leu | Arg | Lys | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Tyr | Gly | Ala | Leu | Met | Asp | Glu | Glu | Asp | Glu | Gly | Ser | Lys | Phe | Cys |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Glu | Glu | Asp | Ile | Asp | Gln | Ile | Leu | Gln | Arg | Arg | Thr | His | Thr | Ile | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Gln | Ser | Glu | Gly | Lys | Gly | Ser | Thr | Phe | Ala | Lys | Ala | Ser | Phe | Val |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Ser | Gly | Asn | Arg | Thr | Asp | Ile | Ser | Leu | Asp | Asp | Pro | Asn | Phe | Trp |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gln | Lys | Trp | Ala | Lys | Ile | Ala | Glu | Leu | Asp | Thr | Glu | Ala | Lys | Asn | Glu |

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      275              280              285
Lys Glu Ser Leu Val Ile Asp Arg Pro Arg Val Arg Lys Gln Thr Lys
  290              295              300
His Tyr Asn Ser Phe Glu Glu Asp Glu Leu Met Glu Phe Ser Glu Leu
  305              310              315              320
Asp Ser Asp Ser Asp Glu Arg Pro Thr Arg Ser Arg Arg Leu Asn Asp
      325              330              335
Lys Ala Arg Arg Tyr Leu Arg Ala Glu Cys Phe Arg Val Glu Lys Asn
      340              345              350
Leu Leu Ile Phe Gly Trp Gly Arg Trp Lys Asp Ile Leu Thr His Gly
      355              360              365
Arg Phe Lys Trp His Leu Asn Glu Lys Asp Met Glu Met Ile Cys Arg
      370              375              380
Ala Leu Leu Val Tyr Cys Val Lys His Tyr Lys Gly Asp Glu Lys Ile
  385              390              395              400
Lys Ser Phe Ile Trp Glu Leu Ile
      405

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<210> 5281  
 <211> 336  
 <212> DNA  
 <213> Homo sapiens

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120
aggcattcct ggtactcaca ggtctgacag ccacagttgg agacacagct atttcttcag
180
aagagaaaac acaacgcatg tcattaatga gacatcacat gggacaatca ttgtccaaag
240
aagttgcaca tgtcctcacc aaacctggag cagatcacga ttgggaaaac ctagagaaag
300
acttgagatt gctcattaat ggggattatg aagaag
336

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<210> 5282  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

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<400> 5282
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Tyr Arg Ala Gln Ala Phe Leu Val Leu Thr Gly Leu Thr Ala Thr Val
      20              25              30
Gly Asp Thr Ala Ile Ser Ser Glu Glu Lys Thr Gln Arg Met Ser Leu
      35              40              45
Met Arg His His Met Gly Gln Ser Leu Ser Lys Glu Val Ala His Val
      50              55              60
Leu Thr Lys Pro Gly Ala Asp His Asp Trp Glu Asn Leu Glu Lys Asp
  65              70              75              80
Leu Arg Leu Leu Ile Asn Gly Asp Tyr Glu Glu

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85

90

<210> 5283  
 <211> 1989  
 <212> DNA  
 <213> Homo sapiens

<400> 5283  
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 120  
 atggatggca tcattgaaca gaagagcatg ctgggtgcaca gtaaaatcag tgatgctggc  
 180  
 aagaggaatg gtttaattaa caccagaaac ttgatggccg agagcagaga tggctctggtg  
 240  
 tctgtttacc cagcgcccca gtaccagagc caccgggtgg gggccagcac agtgccggcc  
 300  
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 360  
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 420  
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 480  
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 540  
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 600  
 agcgactact caagcgacac agagagtgtg gacaatttcc tcatgatgcc cccgcgggac  
 660  
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 720  
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 780  
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 1080  
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 1140  
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 1200  
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 1260  
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 1320  
 ccctgctgga gtcctttgtg ccccccggag tccacacgcc ttccctgcaa gacgagaatg  
 1380

gggctgggaa gaaagaggca acaccacggc tggcaggagc cccgctgcac tgctctgcag  
 1440  
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 1500  
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&lt;210&gt; 5284

&lt;211&gt; 258

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5284

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gly | Ile | Ile | Glu | Gln | Lys | Ser | Met | Leu | Val | His | Ser | Lys | Ile |
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| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Ser | Val | Glu | Ser | Arg | Tyr | Arg | Pro | Asn | Ile | Ile | Leu | Tyr | Ser | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Val | Leu | Arg | Ser | Trp | Gly | Asp | Gly | Val | Ala | Ala | Asp | Cys | Cys | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Thr | Phe | Ile | Glu | Asp | Arg | Ser | Pro | Thr | Lys | Asp | Ser | Leu | Glu | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Asp | Gly | Lys | Phe | Ile | Asp | Leu | Ser | Ala | Asp | Asp | Ile | Lys | Ile | His |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Leu | Ser | Tyr | Asp | Val | Glu | Glu | Glu | Glu | Glu | Phe | Gln | Glu | Leu | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
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|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Pro | Arg | Asp | His | Leu | Gly | Leu | Ser | Val | Phe | Ser | Met | Leu | Cys | Cys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
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[illegible]

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&lt;210&gt; 5286

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 100 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 105 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 110 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu | Lys | Gln | Leu | Lys | Glu | Glu | Glu | Lys | Ile | Leu | Glu | Ser | Val | Ala | Glu | Gly | Arg | Ala | Leu | Met | Ser | Val | Lys | Glu | Met | Ala | Lys | Gly | Ile | Thr | Tyr |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 145 | 150 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 155 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 160 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Met | Ser | Glu | Glu | Arg | His | Glu | Arg | Val | Arg | Lys | Lys | Tyr | His | Ile | Leu | Val | Glu | Gly | Asp | Gly | Ile | Pro | Pro | Pro | Ile | Lys | Ser | Phe | Lys | Glu | Met |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Val | Glu | Gly | Asp | Gly | Ile | Pro | Pro | Pro | Ile | Lys | Ser | Phe | Lys | Glu | Met | Lys | Phe | Pro | Ala | Ala | Ile | Leu | Arg | Gly | Leu | Lys | Lys | Lys | Gly | Ile | His |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 185 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 190 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lys | Phe | Pro | Ala | Ala | Ile | Leu | Arg | Gly | Leu | Lys | Lys | Lys | Gly | Ile | His | His | Pro | Thr | Pro | Ile | Gln | Ile | Gln | Gly | Ile | Pro | Thr | Ile | Leu | Ser | Gly |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Arg | Asp | Met | Ile | Gly | Ile | Ala | Phe | Thr | Gly | Ser | Gly | Lys | Thr | Leu | Val | 225 | 230 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 235 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 240 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phe | Thr | Leu | Pro | Val | Ile | Met | Phe | Cys | Leu | Glu | Gln | Glu | Lys | Arg | Leu | 245 | 250 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 255 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 260 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pro | Phe | Ser | Lys | Arg | Glu | Gly | Pro | Tyr | Gly | Leu | Ile | Ile | Cys | Pro | Ser | 265 | 270 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 275 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 280 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Arg | Glu | Leu | Ala | Arg | Gln | Thr | His | Gly | Ile | Leu | Glu | Tyr | Tyr | Cys | Arg | 285 | 290 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 295 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 300 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu | Leu | Gln | Glu | Asp | Ser | Ser | Pro | Leu | Leu | Arg | Cys | Ala | Leu | Cys | Ile | 295 | 305 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 310 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 315 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 320 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gly | Gly | Met | Ser | Val | Lys | Glu | Gln | Met | Glu | Thr | Ile | Arg | His | Gly | Val | 325 | 330 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 335 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 340 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| His | Met | Met | Val | Ala | Thr | Pro | Gly | Arg | Leu | Met | Asp | Leu | Leu | Gln | Lys | 335 | 345 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 350 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 355 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lys | Met | Val | Ser | Leu | Asp | Ile | Cys | Arg | Tyr | Leu | Ala | Leu | Asp | Glu | Ala | 340 | 345 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 350 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 355 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Asp | Arg | Met | Ile | Asp | Met | Gly | Phe | Glu | Gly | Asp | Ile | Arg | Thr | Ile | Phe | 355 | 360 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 365 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 370 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser | Tyr | Phe | Lys | Gly | Gln | Arg | Gln | Thr | Leu | Leu | Phe | Ser | Ala | Thr | Met | 370 | 375 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 380 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 385 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pro | Lys | Lys | Ile | Gln | Asn | Phe | Ala | Lys | Ser | Ala | Leu | Val | Lys | Pro | Val | 385 | 390 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 395 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 400 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thr | Ile | Asn | Val | Gly | Arg | Ala | Gly | Ala | Ala | Ser | Leu | Asp | Val | Ile | Gln | 405 | 410 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 415 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 420 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu | Val | Glu | Tyr | Val | Lys | Glu | Glu | Ala | Lys | Met | Val | Tyr | Leu | Leu | Glu | 420 | 425 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 430 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cys | Leu | Gln | Lys | Thr | Pro | Pro | Pro | Val | Leu | Ile | Phe | Ala | Glu | Lys | Lys | 435 | 440 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 445 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 450 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala | Asp | Val | Asp | Ala | Ile | His | Glu | Tyr | Leu | Leu | Leu | Lys | Gly | Val | Glu | 450 | 455 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 460 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 465 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala | Val | Ala | Ile | His | Gly | Gly | Lys | Asp | Gln | Glu | Glu | Arg | Thr | Lys | Ala | 465 | 470 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 475 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 480 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ile | Glu | Ala | Phe | Arg | Glu | Gly | Lys | Lys | Asp | Val | Leu | Val | Ala | Thr | Asp | 485 | 490 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 495 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Val | Ala | Ser | Lys | Gly | Leu | Asp | Phe | Pro | Ala | Ile | Gln | His | Val | Ile | Asn | 500 | 505 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 510 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 515 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tyr | Asp | Met | Pro | Glu | Glu | Ile | Glu | Asn | Tyr | Val | His |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

530                      535                      540  
 Ala Cys Asp Glu Ser Val Leu Met Asp Leu Lys Ala Leu Leu Leu Glu  
 545                      550                      555                      560  
 Ala Lys Gln Lys Val Pro Pro Val Leu Gln Val Leu His Cys Gly Asp  
                     565                      570                      575  
 Glu Ser Met Leu Asp Ile Gly Gly Glu Arg Gly Cys Ala Phe Cys Gly  
                     580                      585                      590  
 Gly Leu Gly His Arg Ile Thr Asp Cys Pro Lys Leu Glu Ala Met Gln  
                     595                      600                      605  
 Thr Lys Gln Val Ser Asn Ile Gly Arg Lys Asp Tyr Leu Ala His Ser  
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 Ser Met Asp Phe  
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<210> 5287  
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 <212> DNA  
 <213> Homo sapiens

<400> 5287  
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 240  
 tcaatgaact ccctcaggaa gagcaatacc ctctgtgatg tgacattgag agtagagcag  
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 360  
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                     20                      25                      30  
 Arg Ala Arg Cys Gly Cys Val Gly Ser Gly Ala Glu Leu Gln Asn Pro  
                     35                      40                      45  
 Arg Thr His Phe Val Leu Ser Pro His Cys Phe Met Gly Gly Ile Met

50                      55                      60  
 Ala Pro Lys Asp Ile Met Thr Asn Thr His Ala Lys Ser Ile Leu Asn  
 65                      70                      75                      80  
 Ser Met Asn Ser Leu Arg Lys Ser Asn Thr Leu Cys Asp Val Thr Leu  
                     85                      90                      95  
 Arg Val Glu Gln Lys Asp Phe Pro Ala His Arg Ile Val Leu Ala Ala  
                     100                      105                      110  
 Cys Ser Asp Tyr Phe Cys Ala Met Phe Thr Ser Glu Leu Ser Glu Lys  
                     115                      120                      125  
 Gly Lys Pro Tyr Val Asp Ile Gln Gly Leu Thr Ala Ser Thr Met Glu  
                     130                      135                      140  
 Ile Leu Leu Asp Phe Val Tyr Thr Glu Thr Val His Val Thr Val Glu  
 145                      150                      155                      160  
 Asn Val Gln Glu Leu Leu Pro Ala Ala Cys Leu Leu Gln Leu Lys Gly  
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 <211> 361  
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 <213> Homo sapiens

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                     20                      25                      30  
 Lys Lys Leu Ile Leu Ile Gly Ala Thr Leu Lys Lys Lys Leu Glu His  
                     35                      40                      45  
 Gly Leu Thr Arg Ile Trp Gln Asp Val Gln Leu Lys Val Lys Thr Tyr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Leu | Leu | Gly | Thr | Asp | Leu | Ser | Ile | Phe | Lys | Tyr | Asp | Asp | Phe | Ile | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Val | Leu | Asp | Ile | Ile | Ser | Arg | Leu | Met | Gln | Val | Gly | Glu | Glu | Phe |     |
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 <212> DNA  
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 660  
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 Thr Pro Val Leu Pro Pro Thr Leu Pro Ala Thr Cys Arg Leu Pro Pro  
 35 40 45  
 Met Val Ala Ser Val Ala Gly Gly Leu Gln Ala Gly Leu Asp Gly Glu  
 50 55 60  
 Ser Arg Gly Trp Ser Gly Gly Arg Gly Gln Pro His Pro Gly Gly Ala

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Arg | Gly | Gln | Arg | His | Thr | Val | Ala | Ala | Pro | Ala | Xaa | Arg | Ala | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |
| Gly | Ala | Glu | Pro | His | Ala | Ala | Ala | Ala | Pro | Arg | Arg | Leu | Pro | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Pro | Pro | Pro | Arg | Ala | Gly | His | Pro | Ala | Pro | Gln | Leu | Ala | Gly | Trp |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Ala | Pro | Arg | Leu | Lys | Arg | Thr | Val | Pro | Val | Arg | Arg | Ser |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |

&lt;210&gt; 5293

&lt;211&gt; 1428

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5293

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<211> 290

<212> PRT

<213> Homo sapiens

<400> 5294

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Leu | Leu | His | Val | Lys | Arg | Gly | Asp | Glu | Ser | Gln | Phe | Leu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Ala | Pro | Gly | Ser | Thr | Glu | Leu | Glu | Glu | Leu | Thr | Val | Gln | Val | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Val | Tyr | Asn | Gly | Arg | Leu | Lys | Val | Gln | Arg | Leu | Cys | Ser | Glu | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Glu | Leu | Ala | Glu | His | Gly | Ile | Phe | Leu | Pro | Pro | Asn | Met | Gln | Gly |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Thr | Asp | Asp | Gln | Ile | Glu | Glu | Leu | Lys | Leu | Lys | Asp | Glu | Trp | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Lys | Cys | Val | Pro | Ser | Gly | Gly | Ala | Val | Phe | Lys | Lys | Asp | Asp | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Arg | Arg | Asn | Gly | Gln | Ala | Pro | Asn | Glu | Lys | Met | Lys | Gln | Val | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Lys | Thr | Ile | Glu | Glu | Ala | Lys | Ala | Ile | Ile | Ser | Lys | Lys | Gln | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Ala | Gly | Val | Cys | Val | Thr | Met | Glu | Met | Val | Lys | Asp | Ala | Leu | Asp |
|     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Gln | Leu | Arg | Gly | Ala | Val | Met | Ile | Val | Tyr | Pro | Met | Gly | Leu | Pro | Pro |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Tyr | Asp | Pro | Ile | Arg | Met | Glu | Phe | Glu | Asn | Lys | Glu | Asp | Leu | Ser | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Gln | Ala | Gly | Leu | Asn | Val | Ile | Lys | Glu | Ala | Glu | Ala | Gln | Leu | Trp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Trp | Ala | Ala | Lys | Glu | Leu | Arg | Arg | Thr | Lys | Lys | Leu | Ser | Asp | Tyr | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Lys | Asn | Glu | Lys | Thr | Lys | Ile | Ile | Ala | Lys | Ile | Gln | Gln | Arg | Gly |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Gly | Ala | Pro | Ala | Arg | Glu | Pro | Ile | Ile | Ser | Ser | Glu | Glu | Gln | Lys |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Gln | Leu | Met | Leu | Tyr | Tyr | His | Arg | Arg | Gln | Glu | Glu | Leu | Lys | Arg | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Glu | Asn | Asp | Asp | Asp | Ala | Tyr | Leu | Asn | Ser | Pro | Trp | Ala | Asp | Asn |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Ala | Leu | Lys | Arg | His | Phe | His | Gly | Val | Lys | Asp | Ile | Lys | Trp | Arg |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Pro | Arg |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

290

&lt;210&gt; 5295

&lt;211&gt; 1451

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5295

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<210> 5296

<211> 133

<212> PRT

<213> Homo sapiens

<400> 5296

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ser | Pro | Glu | Ala | Glu | Arg | Val | Leu | Arg | Tyr | Leu | Val | Glu | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Glu | Leu | Ala | Glu | Glu | Val | Leu | Ala | Asp | Lys | Arg | Gln | Ile | Val | Asp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Asp | Thr | Lys | Arg | Asn | Gln | Asn | Arg | Glu | Gly | Leu | Arg | Ala | Leu | Gln |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Lys | Asp | Leu | Ser | Leu | Ser | Glu | Asp | Val | Met | Val | Cys | Phe | Gly | Asn | Met |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Phe | Ile | Lys | Met | Pro | His | Pro | Glu | Thr | Lys | Glu | Met | Ile | Glu | Lys | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Asp | His | Leu | Asp | Lys | Glu | Ile | Glu | Lys | Leu | Arg | Lys | Gln | Leu | Lys |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Val | Lys | Val | Asn | Arg | Leu | Phe | Glu | Ala | Gln | Gly | Lys | Pro | Glu | Leu | Lys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Phe | Asn | Leu | Asn | Pro | Leu | Asn | Gln | Asp | Glu | Leu | Lys | Ala | Leu | Lys |
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&lt;210&gt; 5302

&lt;211&gt; 1339

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5302

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Pro | Ala | Gly | Arg | Arg | Arg | Met | Gln | Ala | Ala | Pro | Arg | Ala | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Cys | Gly | Ala | Ala | Leu | Leu | Leu | Trp | Ile | Val | Ser | Ser | Cys | Leu | Cys | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Trp | Thr | Ala | Pro | Ser | Thr | Ser | Gln | Lys | Cys | Asp | Glu | Pro | Leu | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Gly | Leu | Pro | His | Val | Ala | Phe | Ser | Ser | Ser | Ser | Ser | Ile | Ser | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ser | Tyr | Ser | Pro | Gly | Tyr | Ala | Lys | Ile | Asn | Lys | Arg | Gly | Gly | Ala | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Trp | Ser | Pro | Ser | Asp | Ser | Asp | His | Tyr | Gln | Trp | Leu | Gln | Val | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Gly | Asn | Arg | Lys | Gln | Ile | Ser | Ala | Ile | Ala | Thr | Gln | Gly | Arg | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Ser | Ser | Asp | Trp | Val | Thr | Gln | Tyr | Arg | Met | Leu | Tyr | Ser | Asp | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Arg | Asn | Trp | Lys | Pro | Tyr | His | Gln | Asp | Gly | Asn | Ile | Trp | Ala | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Gly | Asn | Ile | Asn | Ser | Asp | Gly | Val | Val | Arg | His | Glu | Leu | Gln | His |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Ile | Ile | Ala | Arg | Tyr | Val | Arg | Ile | Val | Pro | Leu | Asp | Trp | Asn | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | Gly | Arg | Ile | Gly | Leu | Arg | Ile | Glu | Val | Tyr | Gly | Cys | Ser | Tyr | Trp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Asp | Val | Ile | Asn | Phe | Asp | Gly | His | Val | Val | Leu | Pro | Tyr | Arg | Phe |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Asn | Lys | Lys | Met | Lys | Thr | Leu | Lys | Asp | Val | Ile | Ala | Leu | Asn | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Thr | Ser | Glu | Ser | Glu | Gly | Val | Ile | Leu | His | Gly | Glu | Gly | Gln | Gln |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Asp | Tyr | Ile | Thr | Leu | Glu | Leu | Lys | Lys | Ala | Lys | Leu | Val | Leu | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Leu | Asn | Leu | Gly | Ser | Asn | Gln | Leu | Gly | Pro | Ile | Tyr | Gly | His | Thr | Ser |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Met | Thr | Gly | Ser | Leu | Leu | Asp | Asp | His | His | Trp | His | Ser | Val | Val |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ile | Glu | Arg | Gln | Gly | Arg | Ser | Ile | Asn | Leu | Thr | Leu | Asp | Arg | Ser | Met |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gln | His | Phe | Arg | Thr | Asn | Gly | Glu | Phe | Asp | Tyr | Leu | Asp | Leu | Asp | Tyr |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Ile | Thr | Phe | Gly | Gly | Ile | Pro | Phe | Ser | Gly | Lys | Pro | Ser | Ser | Ser |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Ser | Arg | Lys | Asn | Phe | Lys | Gly | Cys | Met | Glu | Ser | Ile | Asn | Tyr | Asn | Gly |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Asn | Ile | Thr | Asp | Leu | Ala | Arg | Arg | Lys | Lys | Leu | Glu | Pro | Ser | Asn |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Gly | Asn | Leu | Ser | Phe | Ser | Cys | Val | Glu | Pro | Tyr | Thr | Val | Pro | Val |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Phe | Phe | Asn | Ala | Thr | Ser | Tyr | Leu | Glu | Val | Pro | Gly | Arg | Leu | Asn | Gln |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Asp | Leu | Phe | Ser | Val | Ser | Phe | Gln | Phe | Arg | Thr | Trp | Asn | Pro | Asn | Gly |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Leu | Leu | Val | Phe | Ser | His | Phe | Ala | Asp | Asn | Leu | Gly | Asn | Val | Glu | Ile |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Asp | Leu | Thr | Glu | Ser | Lys | Val | Gly | Val | His | Ile | Asn | Ile | Thr | Gln | Thr |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Lys | Met | Ser | Gln | Ile | Asp | Ile | Ser | Ser | Gly | Ser | Gly | Leu | Asn | Asp | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gln | Trp | His | Glu | Val | Arg | Phe | Leu | Ala | Lys | Glu | Asn | Phe | Ala | Ile | Leu |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     |     | 480 |
| Thr | Ile | Asp | Gly | Asp | Glu | Ala | Ser | Ala | Val | Arg | Thr | Asn | Ser | Pro | Leu |

485 490 495  
 Gln Val Lys Thr Gly Glu Lys Tyr Phe Phe Gly Gly Phe Leu Asn Gln  
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 515 520 525  
 Met Gln Leu Ile Gln Val Asp Asp Gln Leu Val Asn Leu Tyr Glu Val  
 530 535 540  
 Ala Gln Arg Lys Pro Gly Ser Phe Ala Asn Val Ser Ile Asp Met Cys  
 545 550 555 560  
 Ala Ile Ile Asp Arg Cys Val Pro Asn His Cys Glu His Gly Gly Lys  
 565 570 575  
 Cys Ser Gln Thr Trp Asp Ser Phe Lys Cys Thr Cys Asp Glu Thr Gly  
 580 585 590  
 Tyr Ser Gly Ala Thr Cys His Asn Ser Ile Tyr Glu Pro Ser Cys Glu  
 595 600 605  
 Ala Tyr Lys His Leu Gly Gln Thr Ser Asn Tyr Tyr Trp Ile Asp Pro  
 610 615 620  
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 625 630 635 640  
 Glu Asp Lys Val Trp Thr Ile Val Ser His Asp Leu Gln Met Gln Thr  
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 Pro Val Val Gly Tyr Asn Pro Glu Lys Tyr Ser Val Thr Gln Leu Val  
 660 665 670  
 Tyr Ser Ala Ser Met Asp Gln Ile Ser Ala Ile Thr Asp Ser Ala Glu  
 675 680 685  
 Tyr Cys Glu Gln Tyr Val Ser Tyr Phe Cys Lys Met Ser Arg Leu Leu  
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 Glu Lys His Tyr Tyr Trp Gly Gly Ser Gly Pro Gly Ile Gln Lys Cys  
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 Ala Cys Gly Ile Glu Arg Asn Cys Thr Asp Pro Lys Tyr Tyr Cys Asn  
 740 745 750  
 Cys Asp Ala Asp Tyr Lys Gln Trp Arg Lys Asp Ala Gly Phe Leu Ser  
 755 760 765  
 Tyr Lys Asp His Leu Pro Val Ser Gln Val Val Val Gly Asp Thr Asp  
 770 775 780  
 Arg Gln Gly Ser Glu Ala Lys Leu Ser Val Gly Pro Leu Arg Cys Gln  
 785 790 795 800  
 Gly Asp Arg Asn Tyr Trp Asn Ala Ala Ser Phe Pro Asn Pro Ser Ser  
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 Tyr Leu His Phe Ser Thr Phe Gln Gly Glu Thr Ser Ala Asp Ile Ser  
 820 825 830  
 Phe Tyr Phe Lys Thr Leu Thr Pro Trp Gly Val Phe Leu Glu Asn Met  
 835 840 845  
 Gly Lys Glu Asp Phe Ile Lys Leu Glu Leu Lys Ser Ala Thr Glu Val  
 850 855 860  
 Ser Phe Ser Phe Asp Val Gly Asn Gly Pro Val Glu Ile Val Val Arg  
 865 870 875 880  
 Ser Pro Thr Pro Leu Asn Asp Asp Gln Trp His Arg Val Thr Ala Glu  
 885 890 895  
 Arg Asn Val Lys Gln Ala Ser Leu Gln Val Asp Arg Leu Pro Gln Gln  
 900 905 910  
 Ile Arg Lys Ala Pro Thr Glu Gly His Thr Arg Leu Glu Leu Tyr Ser

|   |      |      |
|---|------|------|
| 915   | 920  | 925  |
| Gln Leu Phe Val Gly Gly Ala Gly Gly Gln Gln Gly Phe Leu Gly Cys |      |      |
| 930   | 935  | 940  |
| Ile Arg Ser Leu Arg Met Asn Gly Val Thr Leu Asp Leu Glu Glu Arg |      |      |
| 945   | 950  | 955  |
| Ala Lys Val Thr Ser Gly Phe Ile Ser Gly Cys Ser Gly His Cys Thr |      |      |
| 965   | 970  | 975  |
| Ser Tyr Gly Thr Asn Cys Glu Asn Gly Gly Lys Cys Leu Glu Arg Tyr |      |      |
| 980   | 985  | 990  |
| His Gly Tyr Ser Cys Asp Cys Ser Asn Thr Ala Tyr Asp Gly Thr Phe |      |      |
| 995   | 1000 | 1005 |
| Cys Asn Lys Asp Val Gly Ala Phe Phe Glu Glu Gly Met Trp Leu Arg |      |      |
| 1010  | 1015 | 1020 |
| Tyr Asn Phe Gln Ala Pro Ala Thr Asn Ala Arg Asp Ser Ser Ser Arg |      |      |
| 1025  | 1030 | 1035 |
| Val Asp Asn Ala Pro Asp Gln Gln Asn Ser His Pro Asp Leu Ala Gln |      |      |
| 1045  | 1050 | 1055 |
| Glu Glu Ile Arg Phe Ser Phe Ser Thr Thr Lys Ala Pro Cys Ile Leu |      |      |
| 1060  | 1065 | 1070 |
| Leu Tyr Ile Ser Ser Phe Thr Thr Asp Phe Leu Ala Val Leu Val Lys |      |      |
| 1075  | 1080 | 1085 |
| Pro Thr Gly Ser Leu Gln Ile Arg Tyr Asn Leu Gly Gly Thr Arg Glu |      |      |
| 1090  | 1095 | 1100 |
| Pro Tyr Asn Ile Asp Val Asp His Arg Asn Met Ala Asn Gly Gln Pro |      |      |
| 1105  | 1110 | 1115 |
| His Ser Val Asn Ile Thr Arg His Glu Lys Thr Ile Phe Leu Lys Leu |      |      |
| 1125  | 1130 | 1135 |
| Asp His Tyr Pro Ser Val Ser Tyr His Leu Pro Ser Ser Ser Asp Thr |      |      |
| 1140  | 1145 | 1150 |
| Leu Phe Asn Ser Pro Lys Ser Leu Phe Leu Gly Lys Val Ile Glu Thr |      |      |
| 1155  | 1160 | 1165 |
| Gly Lys Ile Asp Gln Glu Ile His Lys Tyr Asn Thr Pro Gly Phe Thr |      |      |
| 1170  | 1175 | 1180 |
| Gly Cys Leu Ser Arg Val Gln Phe Asn Gln Ile Ala Pro Leu Lys Ala |      |      |
| 1185  | 1190 | 1195 |
| Ala Leu Arg Gln Thr Asn Ala Ser Ala His Val His Ile Gln Gly Glu |      |      |
| 1205  | 1210 | 1215 |
| Leu Val Glu Ser Asn Cys Gly Ala Ser Pro Leu Thr Leu Ser Pro Met |      |      |
| 1220  | 1225 | 1230 |
| Ser Ser Ala Thr Asp Pro Trp His Leu Asp His Leu Asp Ser Ala Ser |      |      |
| 1235  | 1240 | 1245 |
| Ala Asp Phe Pro Tyr Asn Pro Gly Gln Gly Gln Ala Ile Arg Asn Gly |      |      |
| 1250  | 1255 | 1260 |
| Val Asn Arg Asn Ser Ala Ile Ile Gly Gly Val Ile Ala Val Val Ile |      |      |
| 1265  | 1270 | 1275 |
| Phe Thr Ile Leu Cys Thr Leu Val Phe Leu Ile Arg Tyr Met Phe Arg |      |      |
| 1285  | 1290 | 1295 |
| His Lys Gly Thr Tyr His Thr Asn Glu Ala Lys Gly Ala Glu Ser Ala |      |      |
| 1300  | 1305 | 1310 |
| Glu Ser Ala Asp Ala Ala Ile Met Asn Asn Asp Pro Asn Phe Thr Glu |      |      |
| 1315  | 1320 | 1325 |
| Thr Ile Asp Glu Ser Lys Lys Glu Trp Leu Ile                     |      |      |
| 1330  | 1335 |      |

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 <212> DNA  
 <213> Homo sapiens

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 35 40 45  
 Glu Gly Leu Ala Asp Ser Gly Pro Gly Gly Ala Gly Arg Pro Ala Ala  
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 Val Ala Ala Arg Glu Gly Ser Thr Glu Phe Asp Trp Gly Asp Glu Thr  
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 Ser Arg Asp Ser Gly Gly Gln Gln Cys Gly Asp Ser Trp Arg Leu  
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<210> 5305  
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 <212> DNA  
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<211> 62

<212> PRT

<213> Homo sapiens

<400> 5306

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| Met | Ala | Arg | Gly | His | Gly | Thr | Arg | Gln | Gly | Cys | Leu | Lys | Pro | Pro | Cys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Gln | Leu | Ala | Gly | Pro | Ser | Leu | Trp | Leu | Glu | Leu | Val | Cys | Val | Tyr | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ile | Lys | Ser | His | Arg | Cys | Leu | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys |
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<212> DNA

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<400> 5307

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&lt;210&gt; 5308

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5308

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Gly | Val | Gly | Ser | Glu | Glu | Leu | Thr | Gln | Gly | Arg | Asp | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Leu | Ile | Asp | Leu | Thr | Trp | Thr | His | Arg | Gly | Gly | Lys | Thr | Cys | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | His | His | Arg | Gly | His | Gly | Pro | Thr | Ser | Val | Ile | Trp | Glu | Thr | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Gly | Arg | Gly | Gly | Asp | Phe | Pro | Lys | Ser | Pro | Ser | Ile | His | Asp | Arg |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gly | Arg | Ala | Trp | Glu | Leu | Gly | Thr | Gln | Gly | Ser | Ser | Lys | Arg | Ser | Arg |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Cys | Tyr | Pro | Gln | Ile | His | Lys | Leu | Arg | Ile | Thr | Cys | Ile | His |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |     |
| Phe | Pro | Pro | Pro | Trp | Thr | Leu | Cys | Phe | Glu | Leu | Phe | Cys | Leu | Pro | Asp |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |

&lt;210&gt; 5309

&lt;211&gt; 2078

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5309

nncgcagctg tggccggaga ggtgggagtc ggagcgaggc cctctcgggg gagcaggggtg  
60  
aacgccggcc actctaggat cctcactcgg ggagaggagg catagctcgc ggggtcaccc  
120  
tccacccgca acgtactccg ggtcggcctt gcgctcgggg cctgagaggg gcggcggcgg  
180  
ggtcaggggc cgcacaaaga atgaaccagc agtggagag aaaatactgt aagctggctg  
240  
actgctgggtg aagaaaatgc tttattttttg tggcaggcat ctgtgggatac tgaatagaa  
300  
atgatggctg gctgtgggtga aattgatcat tcaataaaca tgcttcctac aaacaggaaa  
360  
gcgaacgagt cctgttctaa tactgcacct tctttaaccg tccctgaatg tgccatttgt  
420  
ctgcaaacat gtgttcatcc agtcagtcctg ccctgtaagc acgttttctg ctatctatgt  
480  
gtaaaaggag cttcatggct tggaaagcgg tgtgctcttt gtcgacaaga aattcccagag  
540  
gatttccttg acaagccaac cttgttgtca ccagaagaac tcaaggcagc aagtagagga  
600  
aatgggtgaat atgcatggta ttatgaagga agaaatgggt ggtggcagta cgatgagcgc  
660  
actagtagag agctggaaga tgctttttcc aaaggtaaaa agaacactga aatgttaatt  
720  
gctggctttc tgtatgtcgc tgatcttgaa aacatggttc aatataggag aaatgaacat  
780  
ggacgtcgca ggaagattaa gcgagatata atagatatac caaagaaggg agtagctgga  
840  
cttaggctag actgtgatgc taataccgta aacctagcaa gagagagctc tgctgacgga  
900  
gcggacagtg tatcagcaca gagtggagct tctgttcagc ccctagtgtc ttctgtaagg  
960  
cccctaacat cagtagatgg tcagttaaca agccctgcaa caccatcccc tgatgcaagc  
1020  
acttctctgg aagactcttt tgctcattta caactcagtg gagacaacac agctgaaagg  
1080  
agtcataggg gagaaggaga agaagatcat gaatcaccat cttcaggcag ggtaccagca  
1140  
ccagacacct ccattgaaga aactgaatca gatgccagta gtgatagtga ggatgtatct  
1200  
gcagttgttg cacagcactc cttgacccaa cagagacttt tggtttctaa tgcaaaccag  
1260  
acagtacccg atcgatcaga tcgatcggga actgatcgat cagtagcagg gggtggaaca  
1320  
gtgagtgtca gtgtcagatc tagaaggcct gatggacagt gcacagtaac tgaagtttaa  
1380  
ataaaaatgt cttcagctcc atgctcaagg ttgaaagggg tacctgtaaa tttctgceca  
1440  
cataacatta tactcatccc tagtagtgca ttttgggagt tgggggtggga aggggtatgg  
1500

gaaggataga ctcataatta aaatgtctaa catgtctctg ttgagaaatt tattaatgt  
 1560  
 aaggaacttg ggtgtaata gttgagagct gtttagtaat aaccagttt tcttgaggtc  
 1620  
 tgtttacttt atacttttta aaaacttctg tagttctttt ggccagtgtg tttgtattat  
 1680  
 ctgtgcatta atggctctca tctgactcct gcattgtgtc ttatttttct gcatggattg  
 1740  
 gcataagacc attactaaaa tttggcacct gtgagatgtt tgatattatg aacaggaaac  
 1800  
 ataatttaat gtatgaatag atgtgaattt gggatttcaa aatagatgaa taacaactat  
 1860  
 tttatagtaa agttattgaa atggaaatga aaacagccag taacttatgt ttcagaatgt  
 1920  
 ttgtaacaca cttcatgggtg ttcccatagg ctttgctgtc tagtcttata gtttgagggt  
 1980  
 tttttggtct gcatttttct ttttgattac aaaatttata atttaataaa tactagagtt  
 2040  
 tatcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa  
 2078

&lt;210&gt; 5310

&lt;211&gt; 359

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5310

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Met | Ala | Gly | Cys | Gly | Glu | Ile | Asp | His | Ser | Ile | Asn | Met | Leu | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Thr | Asn | Arg | Lys | Ala | Asn | Glu | Ser | Cys | Ser | Asn | Thr | Ala | Pro | Ser | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Val | Pro | Glu | Cys | Ala | Ile | Cys | Leu | Gln | Thr | Cys | Val | His | Pro | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Leu | Pro | Cys | Lys | His | Val | Phe | Cys | Tyr | Leu | Cys | Val | Lys | Gly | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Trp | Leu | Gly | Lys | Arg | Cys | Ala | Leu | Cys | Arg | Gln | Glu | Ile | Pro | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Phe | Leu | Asp | Lys | Pro | Thr | Leu | Leu | Ser | Pro | Glu | Glu | Leu | Lys | Ala |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Ala | Ser | Arg | Gly | Asn | Gly | Glu | Tyr | Ala | Trp | Tyr | Tyr | Glu | Gly | Arg | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Trp | Trp | Gln | Tyr | Asp | Glu | Arg | Thr | Ser | Arg | Glu | Leu | Glu | Asp | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Ser | Lys | Gly | Lys | Lys | Asn | Thr | Glu | Met | Leu | Ile | Ala | Gly | Phe | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Val | Ala | Asp | Leu | Glu | Asn | Met | Val | Gln | Tyr | Arg | Arg | Asn | Glu | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Arg | Arg | Arg | Lys | Ile | Lys | Arg | Asp | Ile | Ile | Asp | Ile | Pro | Lys | Lys |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Val | Ala | Gly | Leu | Arg | Leu | Asp | Cys | Asp | Ala | Asn | Thr | Val | Asn | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Arg | Glu | Ser | Ser | Ala | Asp | Gly | Ala | Asp | Ser | Val | Ser | Ala | Gln | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Gly | Ala | Ser | Val | Gln | Pro | Leu | Val | Ser | Ser | Val | Arg | Pro | Leu | Thr | Ser |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Val Asp Gly Gln Leu Thr Ser Pro Ala Thr Pro Ser Pro Asp Ala Ser |     |     |
| 225   | 230 | 235 |
| Thr Ser Leu Glu Asp Ser Phe Ala His Leu Gln Leu Ser Gly Asp Asn |     | 240 |
|   | 245 | 250 |
| Thr Ala Glu Arg Ser His Arg Gly Glu Gly Glu Glu Asp His Glu Ser |     | 255 |
|   | 260 | 265 |
| Pro Ser Ser Gly Arg Val Pro Ala Pro Asp Thr Ser Ile Glu Glu Thr |     | 270 |
|   | 275 | 280 |
| Glu Ser Asp Ala Ser Ser Asp Ser Glu Asp Val Ser Ala Val Val Ala |     | 285 |
|   | 290 | 295 |
| Gln His Ser Leu Thr Gln Gln Arg Leu Leu Val Ser Asn Ala Asn Gln |     | 300 |
| 305   | 310 | 315 |
| Thr Val Pro Asp Arg Ser Asp Arg Ser Gly Thr Asp Arg Ser Val Ala |     | 320 |
|   | 325 | 330 |
| Gly Gly Gly Thr Val Ser Val Ser Val Arg Ser Arg Arg Pro Asp Gly |     | 335 |
|   | 340 | 345 |
| Gln Cys Thr Val Thr Glu Val                                     |     | 350 |
| 355   |     |     |

&lt;210&gt; 5311

&lt;211&gt; 572

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5311

tgccactgtg aaggagatga tgagagcccc ctgatcaccc cctgccactg cacaggaagc  
 60  
 ctccacttcg tgcaccaggc ctacctgcag cagtggatca agagctccga cacgcgctgc  
 120  
 tgcgagctct gcaagtatga gttcatcatg gagaccaagc tgaagccact gagaaaatgg  
 180  
 gagaagttgc agatgacgtc cagcgagcgc aggaagatca tgtgctcagt gacattccac  
 240  
 gtcattgcca tcacatgtgt ggtctggtcc ttgtatgtgc tcattgaccg tcctgctgag  
 300  
 gagatcaagc aggggcaggc aacaggaatc ctagaatggc ccttttggac taaattgggtg  
 360  
 gttgtggcca tcggcttcac cagaggactt ctttttatgt atgttcagt taaagtgtat  
 420  
 gtgcaattgt ggaagagact caaggcctat aatagagtga tctatgttca aaactgtcca  
 480  
 gaaacaagca aaaagaatat ttttgaaaaa tctccactaa cagagcccaa ctttgaaaat  
 540  
 aaacatggat atggaatctg tcattccgac ac  
 572

&lt;210&gt; 5312

&lt;211&gt; 190

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5312

Cys His Cys Glu Gly Asp Asp Glu Ser Pro Leu Ile Thr Pro Cys His

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      1           5           10           15
Cys Thr Gly Ser Leu His Phe Val His Gln Ala Tyr Leu Gln Gln Trp
      20           25           30
Ile Lys Ser Ser Asp Thr Arg Cys Cys Glu Leu Cys Lys Tyr Glu Phe
      35           40           45
Ile Met Glu Thr Lys Leu Lys Pro Leu Arg Lys Trp Glu Lys Leu Gln
      50           55           60
Met Thr Ser Ser Glu Arg Arg Lys Ile Met Cys Ser Val Thr Phe His
      65           70           75           80
Val Ile Ala Ile Thr Cys Val Val Trp Ser Leu Tyr Val Leu Ile Asp
      85           90           95
Arg Pro Ala Glu Glu Ile Lys Gln Gly Gln Ala Thr Gly Ile Leu Glu
      100          105          110
Trp Pro Phe Trp Thr Lys Leu Val Val Val Ala Ile Gly Phe Thr Arg
      115          120          125
Gly Leu Leu Phe Met Tyr Val Gln Cys Lys Val Tyr Val Gln Leu Trp
      130          135          140
Lys Arg Leu Lys Ala Tyr Asn Arg Val Ile Tyr Val Gln Asn Cys Pro
      145          150          155          160
Glu Thr Ser Lys Lys Asn Ile Phe Glu Lys Ser Pro Leu Thr Glu Pro
      165          170          175
Asn Phe Glu Asn Lys His Gly Tyr Gly Ile Cys His Ser Asp
      180          185          190

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&lt;210&gt; 5313

&lt;211&gt; 322

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5313

```

cggggcccgc gagaggaaga ggggtgacaag cgcagcgttg cccccagac tcgggtcctg
60
aaaggcgctca tgcgagtagg catcctggcg aaaggcctcc tctgcgtgg ggacaggaac
120
gtgcgcctcg ctctgctctg ctccgagaag cccacgcaca gcctgctgcg gaggatcgcc
180
cagcagctgc cccggcaaca caggcaattc cagtttgtgt gcgactggcc tgtgcatatg
240
gaggtgttca gtgacctggc cctggacact cctgctaaca ggacacacac atactctctt
300
acacacatac atgtccacac ac
322

```

&lt;210&gt; 5314

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5314

```

Arg Gly Arg Arg Glu Glu Glu Gly Asp Lys Arg Ser Val Ala Pro Gln
      1           5           10           15
Thr Arg Val Leu Lys Gly Val Met Arg Val Gly Ile Leu Ala Lys Gly
      20           25           30
Leu Leu Leu Arg Gly Asp Arg Asn Val Arg Leu Ala Leu Leu Cys Ser

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Glu | Lys | Pro | Thr | His | Ser | Leu | Leu | Arg | Arg | Ile | Ala | Gln | Gln | Leu | Pro |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Arg | Gln | His | Arg | Gln | Phe | His | Val | Val | Cys | Asp | Trp | Pro | Val | His | Met |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Val | Phe | Ser | Asp | Leu | Ala | Leu | Asp | Thr | Pro | Ala | Asn | Arg | Thr | His |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Thr | Tyr | Ser | Leu | Thr | His | Ile | His | Val | His | Thr |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |

&lt;210&gt; 5315

&lt;211&gt; 2298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5315

```

ngctcccggc ggcgacgact acgaccacta ggagagcgga cggaggcggc gcctgaagcg
60
gcggcgacg catgccccgg gacggcgggc ggacccggag agacaaattc ggggcccggg
120
gcatgtcccc gggcctccgt gaagggggcg gcggcggtta tggagatcgc gccgcaggag
180
gcgcccggcg tgccggggcg ggacggcgac attgaagagg cccagctga ggccgggtct
240
cccagccccg cgctgccccg cgccgatggg cgctcaagg ctgcagccaa gcgcgtcaca
300
ttcccgctcg acgaggatat cgtgtctgga gcagtggagc ccaaagacc ctggagacat
360
gcccagaatg tgaccgtgga cgaggatcgc ggccgctaca agcaggcctg ccagaagctg
420
aactgcaggc agatccccaa gtcctcagg cagctgcagg aattcacaga cctcgggcac
480
cgctcgact gtctggacct gaaaggtag aagcttgact acaagacctg tgaggccctg
540
gaagaggctc tcaagaggct gcagttcaag gtcgtggacc tggagcagac aaacctggat
600
gaagatggtg cctcgccctt ctctgacatg atcgagtact acgagtcggc caccacctc
660
aacatctcct tcaacaagca catcggcacc cggggctggc aggcggccgc ccacatgatg
720
cgcaagacga gctgcctgca gtatctggac gcccgaaca cgccctgct ggaccactcg
780
gcgcccctcg tggcccgctg cctgcgcac cgcagcagcc tggcagtgt gcacttggag
840
aacgccagcc tgcggggggc gccctcatg ctgctcgcca cggccctgaa gatgaacatg
900
aacctgcggg agctgtacct ggcggacaac aagctcaacg gcctgcagga ctcgggccag
960
ctgggtaacc tgctcaagtt caactgtctc ctgcagatcc tggacctccg gaacaaccac
1020
gtgctagact cgggtctggc ctacatctgc gagggcctca aggagcagag gaaggggctg
1080
gtgaccctgg tgctgtggaa caaccagctc acgcacacag gcatggcctt cctgggcatg
1140

```

acactgtcgc acactcagag cctggagacg ctgaacctgg gccacaaccc catcgggaaac  
 1200  
 gaggggtgtgc ggcacctcaa gaacgggctc atcagcaacc gcagcgtgct gcgcctcggg  
 1260  
 ctggcctcca ccaagctcac gtgcgagggc gcggtggcgg tggcggagtt catcgctgag  
 1320  
 agcccccgcc tcctgagact ggaccttcgg gagaacgaga tcaagacagg cgggctcatg  
 1380  
 gcactgtcgt tggccctcaa ggtgaaccac tctactgtgc gcctggacct cgaccgtgaa  
 1440  
 cccaagaaag aggcgggtgaa gagcttcac gagacgcaga aggcgctgct ggccgagatc  
 1500  
 cagaacggct gcaagcgcaa cttggtgctg gcgcgggaga gggaggagaa ggagcagccg  
 1560  
 ccacagctgt cggcctccat gcctgagacc accgccaccg agccccagcc cgacgacgag  
 1620  
 cccgccgctg ggggtgcagaa cggggccccc agccccgcac ccagccccga ctcagactca  
 1680  
 gactcggact cggatgggga ggaagaggag gaagaggaag gggagaggga cgagaccccc  
 1740  
 tccggggcca ttgacacccg ggacacaggg tcctctgagc ctcagccacc accggagccg  
 1800  
 cctcggctcag ggccaccact gcccacggc ctgaagcccg agttcgccct ggcactgccc  
 1860  
 cctgagccgc ccccgggggc tgaggtcaag gggggcagct gcggcctgga gcacgaactg  
 1920  
 agctgctcca agaacgagaa ggagctcgag gagctgcttc tggaagccag tcaggaatcc  
 1980  
 gggcaggaga cactgtgaca ctttaggtga ggccaggccc ggggcccaca gcactcggga  
 2040  
 ggagctgaga gagcctctgg ctctgacagt ctctcccca atctctctc cccaagtcc  
 2100  
 cttttcccg tgggtctgag atgagctgag gccagagcca tgagaatctg ctcaccttc  
 2160  
 cccagcctt cctgaggccc aggatgccag ggggtggggc cattctgggg cccccctccc  
 2220  
 cccacagcaa cactacaagg ggtgcaggag ctacaggag tggccctccg cgcgtgactc  
 2280  
 aagcattct atttatga  
 2298

&lt;210&gt; 5316

&lt;211&gt; 544

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5316

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Asn | Val | Thr | Val | Asp | Glu | Val | Ile | Gly | Ala | Tyr | Lys | Gln | Ala | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Lys | Leu | Asn | Cys | Arg | Gln | Ile | Pro | Lys | Leu | Leu | Arg | Gln | Leu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Phe | Thr | Asp | Leu | Gly | His | Arg | Leu | Asp | Cys | Leu | Asp | Leu | Lys | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Glu | Lys | Leu | Asp | Tyr | Lys | Thr | Cys | Glu | Ala | Leu | Glu | Glu | Val | Phe | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 50  |     |     |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |  |  |  |  |
| Arg | Leu | Gln | Phe | Lys | Val | Val | Asp | Leu | Glu | Gln | Thr | Asn | Leu | Asp | Glu |  |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |  |
| Asp | Gly | Ala | Ser | Ala | Leu | Phe | Asp | Met | Ile | Glu | Tyr | Tyr | Glu | Ser | Ala |  |  |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |  |
| Thr | His | Leu | Asn | Ile | Ser | Phe | Asn | Lys | His | Ile | Gly | Thr | Arg | Gly | Trp |  |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |  |
| Gln | Ala | Ala | Ala | His | Met | Met | Arg | Lys | Thr | Ser | Cys | Leu | Gln | Tyr | Leu |  |  |  |  |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |  |
| Asp | Ala | Arg | Asn | Thr | Pro | Leu | Leu | Asp | His | Ser | Ala | Pro | Phe | Val | Ala |  |  |  |  |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |
| Arg | Ala | Leu | Arg | Ile | Arg | Ser | Ser | Leu | Ala | Val | Leu | His | Leu | Glu | Asn |  |  |  |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |     |  |  |  |  |
| Ala | Ser | Leu | Ser | Gly | Arg | Pro | Leu | Met | Leu | Leu | Ala | Thr | Ala | Leu | Lys |  |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |  |
| Met | Asn | Met | Asn | Leu | Arg | Glu | Leu | Tyr | Leu | Ala | Asp | Asn | Lys | Leu | Asn |  |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |  |  |  |
| Gly | Leu | Gln | Asp | Ser | Ala | Gln | Leu | Gly | Asn | Leu | Leu | Lys | Phe | Asn | Cys |  |  |  |  |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |  |
| Ser | Leu | Gln | Ile | Leu | Asp | Leu | Arg | Asn | Asn | His | Val | Leu | Asp | Ser | Gly |  |  |  |  |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |  |
| Leu | Ala | Tyr | Ile | Cys | Glu | Gly | Leu | Lys | Glu | Gln | Arg | Lys | Gly | Leu | Val |  |  |  |  |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |     |  |  |  |  |
| Thr | Leu | Val | Leu | Trp | Asn | Asn | Gln | Leu | Thr | His | Thr | Gly | Met | Ala | Phe |  |  |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |  |  |
| Leu | Gly | Met | Thr | Leu | Ser | His | Thr | Gln | Ser | Leu | Glu | Thr | Leu | Asn | Leu |  |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |  |
| Gly | His | Asn | Pro | Ile | Gly | Asn | Glu | Gly | Val | Arg | His | Leu | Lys | Asn | Gly |  |  |  |  |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |  |
| Leu | Ile | Ser | Asn | Arg | Ser | Val | Leu | Arg | Leu | Gly | Leu | Ala | Ser | Thr | Lys |  |  |  |  |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |  |  |
| Leu | Thr | Cys | Glu | Gly | Ala | Val | Ala | Val | Ala | Glu | Phe | Ile | Ala | Glu | Ser |  |  |  |  |
| 305 |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |     |  |  |  |  |
| Pro | Arg | Leu | Leu | Arg | Leu | Asp | Leu | Arg | Glu | Asn | Glu | Ile | Lys | Thr | Gly |  |  |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |  |  |
| Gly | Leu | Met | Ala | Leu | Ser | Leu | Ala | Leu | Lys | Val | Asn | His | Ser | Leu | Leu |  |  |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |  |  |  |  |
| Arg | Leu | Asp | Leu | Asp | Arg | Glu | Pro | Lys | Lys | Glu | Ala | Val | Lys | Ser | Phe |  |  |  |  |
|     |     |     | 355 |     |     | 360 |     |     |     |     |     | 365 |     |     |     |  |  |  |  |
| Ile | Glu | Thr | Gln | Lys | Ala | Leu | Leu | Ala | Glu | Ile | Gln | Asn | Gly | Cys | Lys |  |  |  |  |
|     |     |     | 370 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |  |
| Arg | Asn | Leu | Val | Leu | Ala | Arg | Glu | Arg | Glu | Glu | Lys | Glu | Gln | Pro | Pro |  |  |  |  |
| 385 |     |     |     | 390 |     |     |     | 395 |     |     |     |     | 400 |     |     |  |  |  |  |
| Gln | Leu | Ser | Ala | Ser | Met | Pro | Glu | Thr | Thr | Ala | Thr | Glu | Pro | Gln | Pro |  |  |  |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |  |  |
| Asp | Asp | Glu | Pro | Ala | Ala | Gly | Val | Gln | Asn | Gly | Ala | Pro | Ser | Pro | Ala |  |  |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |  |  |  |  |
| Pro | Ser | Pro | Asp | Ser | Asp | Ser | Asp | Ser | Asp | Ser | Asp | Gly | Glu | Glu | Glu |  |  |  |  |
|     |     |     | 435 |     |     | 440 |     |     |     |     |     | 445 |     |     |     |  |  |  |  |
| Glu | Glu | Glu | Glu | Gly | Glu | Arg | Asp | Glu | Thr | Pro | Ser | Gly | Ala | Ile | Asp |  |  |  |  |
|     |     |     | 450 |     |     | 455 |     |     |     |     |     | 460 |     |     |     |  |  |  |  |
| Thr | Arg | Asp | Thr | Gly | Ser | Glu | Pro | Gln | Pro | Pro | Pro | Glu | Pro | Pro | Pro |  |  |  |  |
| 465 |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |     |  |  |  |  |
| Arg | Ser | Gly | Pro | Pro | Leu | Pro | Asn | Gly | Leu | Lys | Pro | Glu | Phe | Ala | Leu |  |  |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |  |  |
| Ala | Leu | Pro | Pro | Glu | Pro | Pro | Pro | Gly | Pro | Glu | Val | Lys | Gly | Gly | Ser |  |  |  |  |
|     |     |     |     | 500 |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |  |  |
| Cys | Gly | Leu | Glu | His | Glu | Leu | Ser | Cys | Ser | Lys | Asn | Glu | Lys | Glu | Leu |  |  |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |  |  |
| Glu | Glu | Leu | Leu | Leu | Glu | Ala | Ser | Gln | Glu | Ser | Gly | Gln | Glu | Thr | Leu |  |  |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |  |  |

&lt;210&gt; 5317

&lt;211&gt; 889

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5317

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&lt;210&gt; 5318

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5318

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Arg | Pro | Gly | Ser | Cys | Ser | Thr | Arg | Pro | Ser | Cys | Gly | Ala | Arg |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Pro | Thr | Ser | Pro | Thr | Ser | Ala | Ala | Ser | Arg | Ala | Cys | Gly | Ser | Arg | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ala | Ala | Thr | Trp | Trp | Ser | Arg | Ser | Ser | Gly | Ser | Thr | Thr | Leu | Arg | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Ser | Trp | Ala | Ser | Ser | Ser | Thr | Arg | Ala | Ser | Thr | Gly | Thr | Arg | Ser |
| 65  |     |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Pro | Ala | Ala | Ala | Ser | Arg | Arg | Pro | Cys | Gly | Ser | Pro | Ala | Arg | Gly | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Ser | Trp | Ser | Ala | Arg | Tyr | Thr | Ser | Pro | Arg | Met | Trp | Thr | Lys | Met |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Thr | Cys | Arg | Arg | Cys | Arg | Thr | Ser | Ala | Trp | Trp | Trp | Ala | Trp | Ser | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Met | Ser | Arg | Cys |     |     |     |     |     |     |     |     |     |     |     |     |
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&lt;210&gt; 5319

&lt;211&gt; 4231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5319

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<211> 96

<212> PRT

<213> Homo sapiens

<400> 5320

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| Met | Cys | Arg | Val | Thr | Pro | Leu | Ala | Leu | Gly | Val | Ser | Thr | Glu | Pro | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ala | Ser | Leu | Val | Leu | Asn | Phe | Val | Leu | Phe | Cys | Phe | Val | Leu | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ser | Leu | Ala | Leu | Xaa | Thr | Gln | Ala | Gly | Val | Leu | Trp | Leu | Asp | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Ser | Leu | Gln | Pro | Pro | Pro | Pro | Arg | Phe | Lys | Gln | Phe | Ser | Cys | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Leu | Pro | Ser | Ser | Trp | Asp | Tyr | Arg | Cys | Met | Pro | Pro | Trp | Leu | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asn | Phe | Cys | Ile | Phe | Ser | Arg | Asp | Gly | Val | Ser | Pro | Tyr | Trp | Ser | Gly |
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<212> DNA

<213> Homo sapiens

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&lt;210&gt; 5322

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5322

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Lys | Arg | Glu | Leu | Glu | Arg | Glu | Arg | Leu | Val | Thr | Thr | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Gly | Glu | Leu | Gln | Gln | Leu | Ser | Gly | Ser | Gln | Leu | His | Gly | Lys | Ser |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Pro | Asn | Val | Tyr | Thr | Glu | Lys | Lys | Glu | Ile | Ala | Ile | Leu | Arg |
|     | 35  |     |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Glu | Arg | Leu | Thr | Glu | Leu | Glu | Arg | Lys | Leu | Thr | Phe | Glu | Gln | Gln | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ser | Asp | Leu | Trp | Glu | Arg | Leu | Tyr | Val | Glu | Ala | Lys | Asp | Gln | Asn | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Gln | Gly | Thr | Asp | Gly | Lys | Lys | Lys | Gly | Gly | Arg | Gly | Ser | His | Arg |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Lys | Asn | Lys | Ser | Lys | Glu | Thr | Phe | Leu | Gly | Ser | Val | Lys | Glu | Thr |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Asp | Ala | Met | Lys | Asn | Ser | Thr | Lys | Glu | Phe | Val | Arg | His | His | Lys |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Lys | Ile | Lys | Gln | Ala | Lys | Glu | Ala | Val | Lys | Glu | Asn | Leu | Lys | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Phe | Ser | Asp | Ser | Val | Lys | Ser | Thr | Phe | Arg | His | Phe | Lys | Asp | Thr | Thr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Lys | Asn | Ile | Phe | Asp | Glu | Lys | Gly | Asn | Lys | Arg | Phe | Gly | Ala | Thr | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | Ala | Ala | Glu | Lys | Pro | Arg | Thr | Val | Phe | Ser | Asp | Tyr | Leu | His | Pro |

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 <212> DNA  
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 Gly Arg Arg Pro Tyr Lys Trp Arg Gly Val Gly Arg Lys Ala Trp Gln  
 50 55 60  
 Leu Trp Thr Ala Pro Arg Ser Leu Leu Leu Ser Val Gly Leu Ala Ser  
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&lt;400&gt; 5325

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&lt;210&gt; 5326

&lt;211&gt; 234

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5326

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 35 40 45  
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 50 55 60  
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 Ser Lys Arg Leu Ser Trp Lys Ile His Met Pro Ala Ala Leu Val Ala  
 85 90 95  
 Asn Leu Cys Asp Asp Arg Tyr Asn Trp Cys Tyr His Thr Glu Val Gln

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 100 |     | 105 |     | 110 |     |     |     |     |     |     |     |     |     |     |
| Arg | Gly | Leu | Asp | Gly | Arg | Val | Leu | Tyr | Trp | Pro | Arg | Gly | Arg | Val | Trp |
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Gly | Gly | Ser | Ser | Ser | Leu | Asn | Ala | Met | Val | Tyr | Val | Arg | Gly | His | Ala |
|     | 130 |     | 135 |     | 140 |     |     |     |     |     |     |     |     |     |     |
| Glu | Asp | Tyr | Glu | Arg | Trp | Gln | Arg | Gln | Gly | Ala | Arg | Gly | Trp | Asp | Tyr |
| 145 |     |     | 150 |     | 155 |     |     |     |     |     |     |     |     | 160 |     |
| Ala | His | Cys | Leu | Pro | Tyr | Phe | Arg | Lys | Ala | Gln | Gly | His | Xaa | Ala | Gly |
|     |     | 165 |     |     | 170 |     |     |     |     |     |     |     |     | 175 |     |
| Arg | Gln | Pro | Val | Pro | Gly | Arg | Asp | Gly | Pro | Leu | Arg | Val | Ser | Arg | Gly |
|     | 180 |     |     |     | 185 |     |     |     |     |     |     |     | 190 |     |     |
| Lys | Thr | Asn | His | Pro | Leu | His | Cys | Ala | Phe | Leu | Glu | Ala | Thr | Gln | Gln |
|     | 195 |     |     |     | 200 |     |     |     |     |     |     |     | 205 |     |     |
| Ala | Gly | Tyr | Pro | Leu | Thr | Glu | Asp | Met | Asn | Gly | Phe | Gln | Gln | Glu | Gly |
|     | 210 |     |     |     | 215 |     |     |     |     |     |     |     | 220 |     |     |
| Phe | Gly | Trp | Met | Asp | Met | Thr | Ile | His | Glu |     |     |     |     |     |     |
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&lt;210&gt; 5327

&lt;211&gt; 2084

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5327

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 2084

&lt;210&gt; 5328

&lt;211&gt; 694

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5328

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | His | Ser | Gly | Leu | Tyr | Val | Asn | Asn | Asn | Gly | Ile | Ile | Ser | Phe | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Glu | Val | Ser | Gln | Phe | Thr | Pro | Val | Ala | Phe | Pro | Ile | Ala | Lys | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Cys | Val | Val | Ala | Ala | Phe | Trp | Ala | Asp | Val | Asp | Asn | Arg | Arg | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Gly | Asp | Val | Tyr | Tyr | Arg | Glu | Ala | Thr | Asp | Pro | Ala | Met | Leu | Arg | Arg |

**4500**

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<212> DNA
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<211> 308

<212> PRT

<213> Homo sapiens

<400> 5330

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| Trp | Ile | Lys | Tyr | Cys | Leu | Thr | Leu | Met | Gln | Asn | Ala | Gln | Leu | Ser | Met |
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| Gln | Asp | Asn | Ile | Gly | Glu | Leu | Asp | Leu | Asp | Lys | Gln | Ser | Glu | Leu | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Leu | Arg | Lys | Lys | Glu | Leu | Asp | Glu | Glu | Glu | Ser | Ile | Arg | Lys | Lys |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Val | Gln | Phe | Gly | Thr | Gly | Glu | Leu | Cys | Asp | Ala | Ile | Ser | Ala | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Glu | Lys | Val | Ser | Tyr | Leu | Arg | Pro | Leu | Asp | Phe | Glu | Glu | Ala | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Leu | Phe | Leu | Leu | Gly | Gln | His | Tyr | Val | Phe | Glu | Ala | Lys | Glu | Phe |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Gln | Ile | Asp | Gly | Tyr | Val | Thr | Asp | His | Ile | Glu | Val | Val | Gln | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Ser | Ala | Leu | Phe | Lys | Val | Leu | Ala | Phe | Phe | Glu | Thr | Asp | Met | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Arg | Arg | Cys | Lys | Met | His | Lys | Arg | Arg | Ile | Ala | Met | Leu | Glu | Pro | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Val | Asp | Leu | Asn | Pro | Gln | Tyr | Tyr | Leu | Leu | Val | Asn | Arg | Gln | Ile |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Gln | Phe | Glu | Ile | Ala | His | Ala | Tyr | Tyr | Asp | Met | Met | Asp | Leu | Lys | Val |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Ile | Ala | Asp | Arg | Leu | Arg | Asp | Pro | Asp | Ser | His | Ile | Val | Lys | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ile | Asn | Asn | Leu | Asn | Lys | Ser | Ala | Leu | Lys | Tyr | Tyr | Gln | Leu | Phe | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Asp | Ser | Leu | Arg | Asp | Pro | Asn | Lys | Val | Phe | Pro | Glu | His | Ile | Gly | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Val | Leu | Arg | Pro | Ala | Met | Leu | Ala | Lys | Phe | Arg | Val | Ala | Arg | Leu |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Tyr | Gly | Lys | Ile | Ile | Thr | Ala | Asp | Pro | Lys | Lys | Glu | Leu | Glu | Asn | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Thr | Ser | Leu | Glu | His | Tyr | Lys | Phe | Ile | Val | Asp | Tyr | Cys | Glu | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |     |
| His | Pro | Glu | Ala | Ala | Gln | Glu | Ile | Glu | Val | Glu | Leu | Glu | Leu | Ser | Lys |
|     | 275 |     |     |     | 280 |     |     |     |     |     |     | 285 |     |     |     |
| Glu | Met | Val | Ser | Leu | Leu | Pro | Thr | Lys | Met | Glu | Arg | Phe | Arg | Thr | Lys |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Met | Ala | Leu | Thr |     |     |     |     |     |     |     |     |     |     |     |     |
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&lt;210&gt; 5331

&lt;211&gt; 1069

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5331

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&lt;210&gt; 5332

&lt;211&gt; 61

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5332

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| Lys | Phe | Ala | Leu | Glu | Tyr | Arg | Thr | Thr | Arg | Glu | Arg | Val | Leu | Gln | Gln |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Lys | Gln | Lys | Arg | Ala | Asn | His | Arg | Glu | Arg | Asn | Lys | Thr | Arg | Gly | Lys |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Met | Ile | Thr | Asp | Ser | Gly | Lys | Phe | Ser | Gly | Ser | Ser | Pro | Ala | Pro | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Gln | Pro | Gln | Gly | Leu | Ser | Tyr | Ala | Xaa | Gly | Arg | Gly |     |     |     |
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&lt;211&gt; 4282

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&lt;213&gt; Homo sapiens

&lt;400&gt; 5335

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&lt;210&gt; 5336

&lt;211&gt; 766

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5336

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ser | Asp | Thr | Pro | Glu | Ser | Leu | Met | Ala | Leu | Cys | Thr | Asp | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Cys | Leu | Arg | Asn | Leu | Asp | Gly | Thr | Leu | Gly | Tyr | Leu | Leu | Asp | Lys | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Leu | Arg | Leu | His | Pro | Asp | Ile | Phe | Leu | Pro | Ser | Glu | Ile | Cys | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Leu | Val | Asn | Glu | Tyr | Val | Glu | Leu | Val | Asn | Ala | Ala | Cys | Asn | Phe |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Pro | His | Glu | Ser | Phe | Phe | Ser | Leu | Phe | Ser | Asp | Pro | Arg | Ser | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Leu | Thr | Arg | Ile | His | Leu | Arg | Glu | Asp | Leu | Val | Gln | Asp | Gln | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Glu | Ala | Ile | Arg | Lys | Gln | Asp | Leu | Val | Glu | Leu | Tyr | Leu | Thr | Asn |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Cys | Glu | Lys | Leu | Ser | Ala | Lys | Ser | Leu | Gln | Thr | Leu | Arg | Ser | Phe | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| His | Thr | Leu | Val | Ser | Leu | Ser | Leu | Phe | Gly | Cys | Thr | Asn | Ile | Phe | Tyr |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Glu | Glu | Asn | Pro | Gly | Gly | Cys | Glu | Asp | Glu | Tyr | Leu | Val | Asn | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Thr | Cys | Gln | Val | Leu | Val | Lys | Asp | Phe | Thr | Phe | Glu | Gly | Phe | Ser | Arg |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Arg | Phe | Leu | Asn | Leu | Gly | Arg | Met | Ile | Asp | Trp | Val | Pro | Val | Glu |

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180      185      190
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Ile Gln Thr Ser Asp Ala Ala Phe Leu Thr Gln Trp Lys Asp Ser Leu
210      215      220
Val Ser Leu Val Leu Tyr Asn Met Asp Leu Ser Asp Asp His Ile Arg
225      230      235      240
Val Ile Val Gln Leu His Lys Leu Arg His Leu Asp Ile Ser Arg Asp
245      250      255
Arg Leu Ser Ser Tyr Tyr Lys Phe Lys Leu Thr Arg Glu Val Leu Ser
260      265      270
Leu Phe Val Gln Lys Leu Gly Asn Leu Met Ser Leu Asp Ile Ser Gly
275      280      285
His Met Ile Leu Glu Asn Cys Ser Ile Ser Lys Met Glu Glu Glu Ala
290      295      300
Gly Gln Thr Ser Ile Glu Pro Ser Lys Ser Ser Ile Ile Pro Phe Arg
305      310      315      320
Ala Leu Lys Arg Pro Leu Gln Phe Leu Gly Leu Phe Glu Asn Ser Leu
325      330      335
Cys Arg Leu Thr His Ile Pro Ala Tyr Lys Val Ser Gly Asp Lys Asn
340      345      350
Glu Glu Gln Val Leu Asn Ala Ile Glu Ala Tyr Thr Glu His Arg Pro
355      360      365
Glu Ile Thr Ser Arg Ala Ile Asn Leu Leu Phe Asp Ile Ala Arg Ile
370      375      380
Glu Arg Cys Asn Gln Leu Leu Arg Ala Leu Lys Leu Val Ile Thr Ala
385      390      395      400
Leu Lys Cys His Lys Tyr Asp Arg Asn Ile Gln Val Thr Gly Ser Ala
405      410      415
Ala Leu Phe Tyr Leu Thr Asn Ser Glu Tyr Arg Ser Glu Gln Ser Val
420      425      430
Lys Leu Arg Arg Gln Val Ile Gln Val Val Leu Asn Gly Met Glu Ser
435      440      445
Tyr Gln Glu Val Thr Val Gln Arg Asn Cys Cys Leu Thr Leu Cys Asn
450      455      460
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465      470      475      480
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485      490      495
Arg Ile Ala Val His Leu Cys Asn Ala Leu Val Cys Gln Val Asp Asn
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Asp His Lys Glu Ala Val Gly Lys Met Gly Phe Val Val Thr Met Leu
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Lys Leu Ile Gln Lys Lys Leu Leu Asp Lys Thr Cys Asp Gln Val Met
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545      550      555      560
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565      570      575
Cys Leu Lys Glu Phe Pro Glu Lys Gln Glu Leu His Arg Asn Met Leu
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|   |     |     |
|---|-----|-----|
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| 625   | 630 | 635 |
| Ile Met Phe Asp Gly Pro Glu Ala Trp Gly Val Cys Glu Pro Gln Arg |     | 640 |
|   | 645 | 650 |
| Glu Glu Val Glu Glu Arg Met Trp Ala Ala Ile Gln Ser Trp Asp Ile |     | 655 |
|   | 660 | 665 |
| Asn Ser Arg Arg Asn Ile Asn Tyr Arg Ser Phe Glu Pro Ile Leu Arg |     | 670 |
|   | 675 | 680 |
| Leu Leu Pro Gln Gly Ile Ser Pro Val Ser Gln His Trp Ala Thr Trp |     | 685 |
|   | 690 | 700 |
| Ala Leu Tyr Asn Leu Val Ser Val Tyr Pro Asp Lys Tyr Cys Pro Leu |     |     |
| 705   | 710 | 715 |
| Leu Ile Lys Glu Gly Gly Met Pro Leu Leu Arg Asp Ile Ile Lys Met |     | 720 |
|   | 725 | 730 |
| Ala Thr Ala Arg Gln Glu Thr Lys Glu Met Ala Arg Lys Val Ile Glu |     | 735 |
|   | 740 | 745 |
| His Cys Ser Asn Phe Lys Glu Glu Asn Met Asp Thr Ser Arg         |     | 750 |
|   | 755 | 760 |
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&lt;210&gt; 5337

&lt;211&gt; 2742

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5337

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<211> 139

<212> PRT

<213> Homo sapiens

<400> 5338

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| Met | Gly | Gly | Gly | Glu | Arg | Tyr | Asn | Ile | Pro | Ala | Pro | Gln | Ser | Arg | Asn |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Ser | Lys | Asn | Gln | Gln | Gln | Leu | Asn | Arg | Gln | Lys | Thr | Lys | Glu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Ser | Gln | Met | Lys | Ile | Val | His | Lys | Lys | Lys | Glu | Arg | Gly | His | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Asn | Ser | Ser | Ala | Ala | Ala | Trp | Gln | Ala | Met | Gln | Asn | Gly | Gly | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asn | Lys | Asn | Phe | Pro | Asn | Asn | Gln | Ser | Trp | Asn | Ser | Ser | Leu | Ser | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Arg | Leu | Leu | Phe | Lys | Ser | Gln | Ala | Asn | Gln | Asn | Tyr | Ala | Gly | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Phe | Ser | Glu | Pro | Pro | Ser | Pro | Ser | Val | Leu | Pro | Lys | Pro | Pro | Ser |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| His | Trp | Val | Pro | Val | Ser | Phe | Asn | Pro | Ser | Asp | Lys | Glu | Ile | Met | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Gln | Leu | Lys | Thr | Leu | Leu | Lys | Val | Gln | Val |     |     |     |     |     |
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<210> 5339

<211> 847

<212> DNA

<213> Homo sapiens

<400> 5339

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 847

<210> 5340

<211> 217

<212> PRT

<213> Homo sapiens

<400> 5340

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Glu | Asn | Arg | Lys | Val | Val | Leu | Ser | Ile | Leu | Phe | Val | Tyr | Ile | Leu | 1   | 5   | 10  | 15  |
| Asp | Leu | Ser | Asp | Val | Asp | Phe | Leu | Asp | Asp | Ser | Ser | Thr | Glu | Ser | Leu | 20  | 25  | 30  |     |
| Leu | Leu | Ser | Gly | Asp | Glu | Tyr | Asn | Gln | Asp | Phe | Asp | Ser | Thr | Asn | Phe | 35  | 40  | 45  |     |
| Glu | Glu | Ser | Gln | Asp | Glu | Asp | Ala | Leu | Asn | Glu | Ile | Val | Arg | Cys |     | 50  | 55  | 60  |     |
| Ile | Cys | Glu | Met | Asp | Glu | Glu | Asn | Gly | Phe | Met | Ile | Gln | Cys | Glu | Glu | 65  | 70  | 75  | 80  |
| Cys | Leu | Cys | Trp | Gln | His | Ser | Val | Cys | Met | Gly | Leu | Leu | Glu | Glu | Ser | 85  | 90  | 95  |     |
| Ile | Pro | Glu | Gln | Tyr | Ile | Cys | Tyr | Ile | Cys | Arg | Asp | Pro | Pro | Gly | Gln | 100 | 105 | 110 |     |
| Arg | Trp | Ser | Ala | Lys | Tyr | Arg | Tyr | Asp | Lys | Glu | Trp | Leu | Asn | Asn | Gly | 115 | 120 | 125 |     |
| Arg | Met | Cys | Gly | Leu | Ser | Phe | Phe | Lys | Glu | Asn | Tyr | Ser | His | Leu | Asn | 130 | 135 | 140 |     |
| Ala | Lys | Lys | Ile | Val | Ser | Thr | His | His | Leu | Leu | Ala | Asp | Val | Tyr | Gly | 145 | 150 | 155 | 160 |
| Val | Thr | Glu | Val | Leu | His | Gly | Leu | Gln | Leu | Lys | Ile | Gly | Ile | Leu | Lys | 165 | 170 | 175 |     |
| Asn | Lys | His | His | Pro | Asp | Leu | His | Leu | Trp | Ala | Cys | Ser | Gly | Lys | Arg | 180 | 185 | 190 |     |
| Lys | Asp | Gln | Asp | Gln | Ile | Ile | Ala | Gly | Val | Glu | Lys | Lys | Ile | Ala | Gln | 195 | 200 | 205 |     |
| Asp | Thr | Val | Asn | Arg | Glu | Glu | Lys | Lys |     |     |     |     |     |     |     | 210 | 215 |     |     |

&lt;210&gt; 5341

&lt;211&gt; 2455

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5341

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 2455

&lt;210&gt; 5342

&lt;211&gt; 690

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5342

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Val | Arg | Gln | Gln | Leu | Ala | Leu | Leu | Leu | Leu | Leu | Leu | Leu | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Trp | Gly | Leu | Gly | Gln | Pro | Val | Trp | Pro | Val | Ala | Val | Ala | Leu | Thr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Arg | Trp | Leu | Leu | Gly | Asp | Pro | Thr | Cys | Cys | Val | Leu | Leu | Gly | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Met | Leu | Ala | Arg | Pro | Trp | Leu | Gly | Pro | Trp | Val | Pro | His | Gly | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ser | Leu | Ala | Ala | Ala | Ala | Leu | Ala | Leu | Thr | Leu | Leu | Pro | Ala | Arg | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Pro | Gly | Leu | Arg | Trp | Leu | Pro | Ala | Asp | Val | Ile | Phe | Leu | Ala | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ile | Leu | His | Leu | Gly | Leu | Lys | Ile | Arg | Gly | Cys | Leu | Ser | Arg | Gln | Pro |

|   |     |     |
|---|-----|-----|
| 100   | 105 | 110 |
| Pro Asp Thr Phe Val Asp Ala Phe Glu Arg Arg Ala Arg Ala Gln Pro |     |     |
| 115   | 120 | 125 |
| Gly Arg Ala Leu Leu Val Trp Thr Gly Pro Gly Ala Gly Ser Val Thr |     |     |
| 130   | 135 | 140 |
| Phe Gly Glu Leu Asp Ala Arg Ala Cys Gln Ala Ala Trp Ala Leu Lys |     |     |
| 145   | 150 | 155 |
| Ala Glu Leu Gly Asp Pro Ala Ser Leu Cys Ala Gly Glu Pro Thr Ala |     |     |
| 165   | 170 | 175 |
| Leu Leu Val Leu Ala Ser Gln Ala Val Pro Ala Leu Cys Met Trp Leu |     |     |
| 180   | 185 | 190 |
| Gly Leu Ala Lys Leu Gly Cys Pro Thr Ala Trp Ile Asn Pro His Gly |     |     |
| 195   | 200 | 205 |
| Arg Gly Met Pro Leu Ala His Ser Val Leu Ser Ser Gly Ala Arg Val |     |     |
| 210   | 215 | 220 |
| Leu Val Val Asp Pro Asp Leu Arg Glu Ser Leu Glu Glu Ile Leu Pro |     |     |
| 225   | 230 | 235 |
| Lys Leu Gln Ala Glu Asn Ile Arg Cys Phe Tyr Leu Ser His Thr Ser |     |     |
| 245   | 250 | 255 |
| Pro Thr Pro Gly Val Gly Ala Leu Gly Ala Ala Leu Asp Ala Ala Pro |     |     |
| 260   | 265 | 270 |
| Ser His Pro Val Pro Ala Asp Leu Arg Ala Gly Ile Thr Trp Arg Ser |     |     |
| 275   | 280 | 285 |
| Pro Ala Leu Phe Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Pro |     |     |
| 290   | 295 | 300 |
| Ala Ile Leu Thr His Glu Arg Val Leu Gln Met Ser Lys Met Leu Ser |     |     |
| 305   | 310 | 315 |
| Leu Ser Gly Ala Thr Ala Asp Asp Val Val Tyr Thr Val Leu Pro Leu |     |     |
| 325   | 330 | 335 |
| Tyr His Val Met Gly Leu Val Val Gly Ile Leu Gly Cys Leu Asp Leu |     |     |
| 340   | 345 | 350 |
| Gly Ala Thr Cys Val Leu Ala Pro Lys Phe Ser Thr Ser Cys Phe Trp |     |     |
| 355   | 360 | 365 |
| Asp Asp Cys Arg Gln His Gly Val Thr Val Ile Leu Tyr Val Gly Glu |     |     |
| 370   | 375 | 380 |
| Leu Leu Arg Tyr Leu Cys Asn Ile Pro Gln Gln Pro Glu Asp Arg Thr |     |     |
| 385   | 390 | 395 |
| His Thr Val Arg Leu Ala Met Gly Asn Gly Leu Arg Ala Asp Val Trp |     |     |
| 405   | 410 | 415 |
| Glu Thr Phe Gln Gln Arg Phe Gly Pro Ile Arg Ile Trp Glu Val Tyr |     |     |
| 420   | 425 | 430 |
| Gly Ser Thr Glu Gly Asn Met Gly Leu Val Asn Tyr Val Gly Arg Cys |     |     |
| 435   | 440 | 445 |
| Gly Ala Leu Gly Lys Met Ser Cys Leu Leu Arg Met Leu Ser Pro Phe |     |     |
| 450   | 455 | 460 |
| Glu Leu Val Gln Phe Asp Met Glu Ala Ala Glu Pro Val Arg Asp Asn |     |     |
| 465   | 470 | 475 |
| Gln Gly Phe Cys Ile Pro Val Gly Leu Gly Glu Pro Gly Leu Leu Leu |     |     |
| 485   | 490 | 495 |
| Thr Lys Val Val Ser Gln Gln Pro Phe Val Gly Tyr Arg Gly Pro Arg |     |     |
| 500   | 505 | 510 |
| Glu Leu Ser Glu Arg Lys Leu Val Arg Asn Val Arg Gln Ser Gly Asp |     |     |
| 515   | 520 | 525 |
| Val Tyr Tyr Asn Thr Gly Asp Val Leu Ala Met Asp Arg Glu Gly Phe |     |     |

530                      535                      540  
 Leu Tyr Phe Arg Asp Arg Leu Gly Asp Thr Phe Arg Trp Lys Gly Glu  
 545                      550                      555                      560  
 Asn Val Ser Thr His Glu Val Glu Gly Val Leu Ser Gln Val Asp Phe  
                          565                      570                      575  
 Leu Gln Gln Val Asn Val Tyr Gly Val Cys Val Pro Gly Cys Glu Gly  
                          580                      585                      590  
 Lys Val Gly Met Ala Ala Val Gln Leu Ala Pro Gly Gln Thr Phe Asp  
                          595                      600                      605  
 Gly Glu Lys Leu Tyr Gln His Val Arg Ala Trp Leu Pro Ala Tyr Ala  
                          610                      615                      620  
 Thr Pro His Phe Ile Arg Ile Gln Asp Ala Met Glu Val Thr Ser Thr  
 625                      630                      635                      640  
 Phe Lys Leu Met Lys Thr Arg Leu Val Arg Glu Gly Phe Asn Val Gly  
                          645                      650                      655  
 Ile Val Val Asp Pro Leu Phe Val Leu Asp Asn Arg Ala Gln Ser Phe  
                          660                      665                      670  
 Arg Pro Leu Thr Ala Glu Met Tyr Gln Ala Val Cys Glu Gly Thr Trp  
                          675                      680                      685  
 Lys Leu  
 690

&lt;210&gt; 5343

&lt;211&gt; 752

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5343

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 660  
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 <212> PRT  
 <213> Homo sapiens

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 Glu Arg Ser Phe Phe Leu Lys Lys Arg Arg Ala Asp Phe Val Ala Gly  
 35 40 45  
 Ser Leu Ser Gly Arg Val Ile Val Ala Gly Gly Leu Gly Asn Gln Pro  
 50 55 60  
 Thr Val Leu Glu Thr Ala Glu Ala Phe His Pro Gly Lys Asn Lys Trp  
 65 70 75 80  
 Glu Ile Leu Pro Ala Met Pro Thr Pro Arg Cys Ala Cys Ser Ser Ile  
 85 90 95  
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<210> 5345  
 <211> 1912  
 <212> DNA  
 <213> Homo sapiens

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 120  
 gactcttccc ctgccaagaa aactcgtaga tgccagagac aggagtcgaa aaagatgcct  
 180  
 gtggctggag gaaaagctaa taaggacagg acagaagaca agcaagatgg tatgccagga  
 240  
 aggtcatggg ccagcaaaaag ggtctctgaa tctgtgaagg ccttgctgtt aaagggcaaa  
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 360  
 aatgatgtct atgatgtcat gctaaatcag accaatctcc agttcaacaa caacaagtac  
 420  
 tatctgattc agctattaga agatgatgcc cagaggaact tcagtgtttg gatgagatgg  
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 660  
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 720

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 780  
 gaagaaatga tgatggaaat gaagtataat accaagaaag cccacttgg gaagctgaca  
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 960  
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 1080  
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 1200  
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 1260  
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 1320  
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 1380  
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 aatgggagta cagtgccatt aggaccagca agtgacacag gaattctgaa tccagatgg  
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 1800  
 gagatctgat cttcaagcaa gaaaataagc agtggtgtac ttgtgaattt tgtgatattt  
 1860  
 tatgtaataa aaactgtaca ggtctaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1912

&lt;210&gt; 5346

&lt;211&gt; 534

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5346

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Val | Ala | Gly | Gly | Lys | Ala | Asn | Lys | Asp | Arg | Thr | Glu | Asp | Lys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Gln | Asp | Gly | Met | Pro | Gly | Arg | Ser | Trp | Ala | Ser | Lys | Arg | Val | Ser | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Val | Lys | Ala | Leu | Leu | Leu | Lys | Gly | Lys | Ala | Pro | Val | Asp | Pro | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Thr | Ala | Lys | Val | Gly | Lys | Ala | His | Val | Tyr | Cys | Glu | Gly | Asn | Asp |

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Val Tyr Asp Val Met Leu Asn Gln Thr Asn Leu Gln Phe Asn Asn Asn |     |     |
| 65  | 70  | 75  |
| Lys Tyr Tyr Leu Ile Gln Leu Leu Glu Asp Asp Ala Gln Arg Asn Phe |     | 80  |
|   | 85  | 90  |
| Ser Val Trp Met Arg Trp Gly Arg Val Gly Lys Met Gly Gln His Ser |     | 95  |
|   | 100 | 105 |
| Leu Val Ala Cys Ser Gly Asn Leu Asn Lys Ala Lys Glu Ile Phe Gln |     | 110 |
|   | 115 | 120 |
| Lys Lys Phe Leu Asp Lys Thr Lys Asn Asn Trp Glu Asp Arg Glu Lys |     | 125 |
|   | 130 | 135 |
| Phe Glu Lys Val Pro Gly Lys Tyr Asp Met Leu Gln Met Asp Tyr Ala |     | 140 |
| 145   | 150 | 155 |
| Thr Asn Thr Gln Asp Glu Glu Glu Thr Lys Lys Glu Glu Ser Leu Lys |     | 160 |
|   | 165 | 170 |
| Ser Pro Leu Lys Pro Glu Ser Gln Leu Asp Leu Arg Val Gln Glu Leu |     | 175 |
|   | 180 | 185 |
| Ile Lys Leu Ile Cys Asn Val Gln Ala Met Glu Glu Met Met Met Glu |     | 190 |
|   | 195 | 200 |
| Met Lys Tyr Asn Thr Lys Lys Ala Pro Leu Gly Lys Leu Thr Val Ala |     | 205 |
|   | 210 | 215 |
| Gln Ile Lys Ala Gly Tyr Gln Ser Leu Lys Lys Ile Glu Asp Cys Ile |     | 220 |
| 225   | 230 | 235 |
| Arg Ala Gly Gln His Gly Arg Ala Leu Met Glu Ala Cys Asn Glu Phe |     | 240 |
|   | 245 | 250 |
| Tyr Thr Arg Ile Pro His Asp Phe Gly Leu Arg Thr Pro Pro Leu Ile |     | 255 |
|   | 260 | 265 |
| Arg Thr Gln Lys Glu Leu Ser Glu Lys Ile Gln Leu Leu Glu Ala Leu |     | 270 |
|   | 275 | 280 |
| Gly Asp Ile Glu Ile Ala Ile Lys Leu Val Lys Thr Glu Leu Gln Ser |     | 285 |
|   | 290 | 295 |
| Pro Glu His Pro Leu Asp Gln His Tyr Arg Asn Leu His Cys Ala Leu |     | 300 |
| 305   | 310 | 315 |
| Arg Pro Leu Asp His Glu Ser Tyr Glu Phe Lys Val Ile Ser Gln Tyr |     | 320 |
|   | 325 | 330 |
| Leu Gln Ser Thr His Ala Pro Thr His Ser Asp Tyr Thr Met Thr Leu |     | 335 |
|   | 340 | 345 |
| Leu Asp Leu Phe Glu Val Glu Lys Asp Gly Glu Lys Glu Ala Phe Arg |     | 350 |
|   | 355 | 360 |
| Glu Asp Leu His Asn Arg Met Leu Leu Trp His Gly Ser Arg Met Ser |     | 365 |
|   | 370 | 375 |
| Asn Trp Val Gly Ile Leu Ser His Gly Leu Arg Ile Ala Pro Pro Glu |     | 380 |
| 385   | 390 | 395 |
| Ala Pro Ile Thr Gly Tyr Met Phe Gly Lys Gly Ile Tyr Phe Ala Asp |     | 400 |
|   | 405 | 410 |
| Met Ser Ser Lys Ser Ala Asn Tyr Cys Phe Ala Ser Arg Leu Lys Asn |     | 415 |
|   | 420 | 425 |
| Thr Gly Leu Leu Leu Leu Ser Glu Val Ala Leu Gly Gln Cys Asn Glu |     | 430 |
|   | 435 | 440 |
| Leu Leu Glu Ala Asn Pro Lys Ala Glu Gly Leu Leu Gln Gly Lys His |     | 445 |
|   | 450 | 455 |
| Ser Thr Lys Gly Leu Gly Lys Met Ala Pro Ser Ser Ala His Phe Val |     | 460 |
| 465   | 470 | 475 |
| Thr Leu Asn Gly Ser Thr Val Pro Leu Gly Pro Ala Ser Asp Thr Gly |     | 480 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 485 |     | 490 |     | 495 |     |     |     |     |     |     |     |     |     |     |
| Ile | Leu | Asn | Pro | Asp | Gly | Tyr | Thr | Leu | Asn | Tyr | Asn | Glu | Tyr | Ile | Val |
|     | 500 |     |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Tyr | Asn | Pro | Asn | Gln | Val | Arg | Met | Arg | Tyr | Leu | Leu | Lys | Val | Gln | Phe |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |
| Asn | Phe | Leu | Gln | Leu | Trp |     |     |     |     |     |     |     |     |     |     |
| 530 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5347&lt;211&gt; 2893

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5347

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 180  
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2700  
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2760  
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<210> 5348  
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 <212> PRT  
 <213> Homo sapiens

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 Tyr Leu Leu Leu Pro Pro Pro Thr Leu Leu Gln Asp Glu Leu Leu Phe  
 35 40 45  
 Leu Gly Gly Pro Ala Ser Ser Ala Tyr Ala Leu Ser Pro Phe Ser Ala  
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 85 90 95  
 Ala Leu Gly Val Pro Phe Val Pro Arg Thr Ser Val Asp Ala Trp Leu  
 100 105 110  
 Val His Ser Val Ala Ala Gly Ser Ala Asp Glu Ala His Gly Leu Leu  
 115 120 125  
 Gly Ala Ala Ala Ala Ser Ser Thr Gly Gly Ala Gly Ala Ser Val Asp  
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 Gly Gly Ser Gln Ala Val Gln Gly Gly Cys Gly Asp Ser Arg Ala Ala  
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 Arg Ser Gly Pro Leu Asp Ala Gly Glu Glu Lys Ala Pro Ala Glu  
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 Pro Thr Ala Gln Val Pro Asp Ala Gly Gly Cys Ala Ser Glu Glu Asn  
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 Gly Val Leu Arg Glu Lys His Glu Ala Val Asp His Ser Ser Gln His  
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 Glu Glu Asn Glu Glu Arg Val Ser Ala Gln Lys Glu Asn Ser Leu Gln  
 210 215 220  
 Gln Asn Asp Asp Asp Glu Asn Lys Ile Ala Glu Lys Pro Asp Trp Glu  
 225 230 235 240  
 Ala Glu Lys Thr Thr Glu Ser Arg Asn Glu Arg His Leu Asn Gly Thr  
 245 250 255  
 Asp Thr Ser Phe Ser Leu Glu Asp Leu Phe Gln Leu Leu Ser Ser Gln  
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 Gly Ser Ile Ser Asp Gly Met Asn Ser Ser Ala His Tyr His Val Asn  
 290 295 300  
 Phe Ser Gln Ala Ile Ser Gln Asp Val Asn Leu His Glu Ala Ile Leu  
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 Leu Cys Pro Asn Asn Thr Phe Arg Arg Asp Pro Thr Ala Arg Thr Ser  
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 Gln Ser Gln Glu Pro Phe Leu Gln Leu Asn Ser His Thr Thr Asn Pro

| 340 |     |     |     |     |     |     |     |     |     | 345 |     |     |     |     | 350         |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|--|--|--|--|--|--|
| Glu | Gln | Thr | Leu | Pro | Gly | Thr | Asn | Leu | Thr | Gly | Phe | Leu | Ser | Pro | Val         |  |  |  |  |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |             |  |  |  |  |  |  |
| Asp | Asn | His | Met | Arg | Asn | Leu | Thr | Ser | Gln | Asp | Leu | Leu | Tyr | Asp | Leu         |  |  |  |  |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |             |  |  |  |  |  |  |
| Asp | Ile | Asn | Ile | Phe | Asp | Glu | Ile | Asn | Leu | Met | Ser | Leu | Ala | Thr | Glu         |  |  |  |  |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400         |  |  |  |  |  |  |
| Asp | Asn | Phe | Asp | Pro | Ile | Asp | Val | Ser | Gln | Leu | Phe | Asp | Glu | Ser | Asp         |  |  |  |  |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |             |  |  |  |  |  |  |
| Ser | Asp | Ser | Gly | Leu | Ser | Leu | Asp | Ser | Ser | His | Asn | Asn | Thr | Ser | Val         |  |  |  |  |  |  |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     |     | 430 |     |             |  |  |  |  |  |  |
| Ile | Lys | Ser | Asn | Ser | Ser | His | Ser | Val | Cys | Asp | Glu | Gly | Ala | Ile | Gly         |  |  |  |  |  |  |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |             |  |  |  |  |  |  |
| Tyr | Cys | Thr | Asp | His | Glu | Ser | Ser | Ser | His | His | Asp | Leu | Glu | Gly | Ala         |  |  |  |  |  |  |
|     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |             |  |  |  |  |  |  |
| Val | Gly | Gly | Tyr | Tyr | Pro | Glu | Pro | Ser | Lys | Leu | Cys | His | Leu | Asp | Gln         |  |  |  |  |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480         |  |  |  |  |  |  |
| Ser | Asp | Ser | Asp | Phe | His | Gly | Asp | Leu | Thr | Phe | Gln | His | Val | Phe | His         |  |  |  |  |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |             |  |  |  |  |  |  |
| Asn | His | Thr | Tyr | His | Leu | Gln | Pro | Thr | Ala | Pro | Glu | Ser | Thr | Ser | Glu         |  |  |  |  |  |  |
|     |     | 500 |     |     |     |     |     |     | 505 |     |     |     |     | 510 |             |  |  |  |  |  |  |
| Pro | Phe | Pro | Trp | Pro | Gly | Lys | Ser | Gln | Lys | Ile | Arg | Ser | Arg | Tyr | Leu         |  |  |  |  |  |  |
|     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |             |  |  |  |  |  |  |
| Glu | Asp | Thr | Asp | Arg | Asn | Leu | Ser | Arg | Asp | Glu | Gln | Arg | Ala | Lys | Ala         |  |  |  |  |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |             |  |  |  |  |  |  |
| Leu | His | Ile | Pro | Phe | Ser | Val | Asp | Glu | Ile | Val | Gly | Met | Pro | Val | Asp         |  |  |  |  |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560         |  |  |  |  |  |  |
| Ser | Phe | Asn | Ser | Met | Leu | Ser | Arg | Tyr | Tyr | Leu | Thr | Asp | Leu | Gln | Val         |  |  |  |  |  |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 | Leu Ile Arg |  |  |  |  |  |  |
| Asp | Ile | Arg | Arg | Arg | Gly | Lys | Asn | Lys | Val | Ala | Ala |     |     |     |             |  |  |  |  |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     |     | 590 |             |  |  |  |  |  |  |
| Gln | Asn | Cys | Arg | Lys | Arg | Lys | Leu | Asp | Ile | Ile | Leu | Asn | Leu | Glu | Asp         |  |  |  |  |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |             |  |  |  |  |  |  |
| Asp | Val | Cys | Asn | Leu | Gln | Ala | Lys | Lys | Glu | Thr | Leu | Lys | Arg | Glu | Gln         |  |  |  |  |  |  |
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<211> 425

**<212> DNA**

<213> Homo sapiens

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 tgggcaaaca ccacaccagc agggagcccc aagcccagcc caagccccac aaagtctcca  
 180  
 gccaggaagg ggaaggcagg ataccactgc ctgggaaggc ggaagtgaga gaggcaggcc  
 240  
 aaccattcc tgtttctctt ctacttcttt ctccaaagaa agccctcact ctctctgcta  
 300  
 cagcccaggg aggtcacgag gggctgggaa gactcctgtg gcaaagtggc ccactccage  
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<210> 5350

<211> 134

<212> PRT

<213> Homo sapiens

<400> 5350

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Gly | Leu | Gly | Leu | His | Phe | Phe | Val | Pro | Thr | His | Ser | Ser | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Thr | Ala | Cys | His | Ser | Ser | Pro | Leu | Pro | Cys | Gly | Cys | Gln | Asp | Asn |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gly | Lys | His | His | Thr | Ser | Arg | Glu | Pro | Gln | Ala | Gln | Pro | Lys | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Lys | Val | Ser | Ser | Gln | Glu | Gly | Glu | Gly | Arg | Ile | Pro | Leu | Pro | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys | Ala | Glu | Val | Arg | Glu | Ala | Gly | Gln | Pro | Ile | Pro | Val | Ser | Leu | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Leu | Ser | Pro | Lys | Lys | Ala | Leu | Thr | Leu | Leu | Ala | Thr | Ala | Gln | Gly |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | His | Glu | Gly | Leu | Gly | Arg | Leu | Leu | Trp | Gln | Ser | Gly | Pro | Leu | Gln |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Pro | Arg | Pro | Glu | Lys | Lys | Arg | Thr | Pro | Lys | Ser | Phe | Trp | Leu | Pro | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Ser | Ala | Phe | Thr | Arg |     |     |     |     |     |     |     |     |     |     |
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<211> 343

<212> DNA

<213> Homo sapiens

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 gctgaacagg ctgggttttcg agacggaccg agaaggcaag ttctgctgca ggctttttgga  
 180  
 cagagcgtct tgggtgccaat caaaatcact cttgttgctg ccgttttcggg tgtcacagtt  
 240

cctcctctca ctattggaca gcttgaagcc aaggcccagg cctgaccagt aggaatccga  
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<210> 5352

<211> 112

<212> PRT

<213> Homo sapiens

<400> 5352

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Lys | Met | Thr | Ala | Val | Tyr | Ala | Asn | Ile | Leu | Ser | Asp | Ser | Tyr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Trp | Ser | Gly | Leu | Gly | Leu | Gly | Phe | Lys | Leu | Ser | Asn | Ser | Glu | Arg | Arg |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Cys | Asp | Thr | Arg | Asn | Gly | Ser | Asn | Lys | Ser | Asp | Phe | Asp | Trp | His |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gln | Asp | Ala | Leu | Ser | Lys | Ser | Leu | Gln | Gln | Asn | Leu | Pro | Ser | Arg | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Val | Ser | Lys | Pro | Ser | Leu | Phe | Ser | Ser | Val | Gln | Leu | Tyr | Arg | Gln | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Lys | Met | Cys | Gly | Thr | Val | Phe | Thr | Gly | Ala | Ser | Arg | Phe | Arg | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |
| Arg | Gln | Cys | Ser | Ala | Ala | Tyr | Asp | Thr | Leu | Val | Glu | Leu | Thr | Val | His |
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<210> 5353

<211> 4217<212> DNA

<213> Homo sapiens

<400> 5353

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 240  
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 300  
 aatctccacg acaaagacag ctcaaccac tggaacaaac agactcccaa tgtggctggc  
 360  
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 480  
 acaaagggca atgcactgtg taacagaact gaacacaatt taacaaagct gctcccagcc  
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 Asn Glu Pro Gly Glu Thr Thr Gln Ile Thr Tyr His Gln Leu Leu Val  
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 Gln Val Cys Gln Phe Ser Asn Val Leu Arg Lys Gln Gly Ile Gln Lys  
 50 55 60  
 Gly Asp Arg Val Ala Ile Tyr Met Pro Met Ile Pro Glu Leu Val Val  
 65 70 75 80  
 Ala Met Leu Ala Cys Ala Arg Ile Gly Ala Leu His Ser Ile Val Phe  
 85 90 95  
 Ala Gly Phe Ser Ser Glu Ser Leu Cys Glu Arg Ile Leu Asp Ser Ser  
 100 105 110  
 Cys Ser Leu Leu Ile Thr Thr Asp Ala Phe Tyr Arg Gly Glu Lys Leu  
 115 120 125  
 Val Asn Leu Lys Glu Leu Ala Asp Glu Ala Leu Gln Lys Cys Gln Glu  
 130 135 140  
 Lys Gly Phe Pro Val Arg Cys Cys Ile Val Val Lys His Leu Gly Arg  
 145 150 155 160  
 Ala Glu Leu Gly Met Gly Thr Pro Pro Ala Ser Pro Pro Gln Leu Arg  
 165 170 175  
 Gly His Ala Asp Val Gln Ile Ser Trp Asn Gln Gly Ile Asp Leu Trp  
 180 185 190  
 Trp His Glu Leu Met Gln Glu Ala Gly Asp Glu Cys Glu Pro Glu Trp  
 195 200 205  
 Cys Asp Ala Glu Asp Pro Leu Phe Ile Leu Tyr Thr Ser Gly Ser Thr  
 210 215 220  
 Gly Lys Pro Lys Gly Val Val His Thr Val Gly Gly Tyr Met Leu Tyr  
 225 230 235 240  
 Val Ala Thr Thr Phe Lys Tyr Val Phe Asp Phe His Ala Glu Asp Val  
 245 250 255  
 Phe Trp Cys Thr Ala Asp Ile Gly Trp Ile Thr Gly His Ser Tyr Val  
 260 265 270  
 Thr Tyr Gly Pro Leu Ala Asn Gly Ala Thr Ser Val Leu Phe Glu Gly

|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Ile Pro Thr Tyr Pro Asp Val Asn Arg Leu Trp Ser Ile Val Asp Lys |     |     |
| 290   | 295 | 300 |
| Tyr Lys Val Thr Lys Phe Tyr Thr Ala Pro Thr Ala Ile Arg Leu Leu |     |     |
| 305   | 310 | 315 |
| Met Lys Phe Gly Asp Glu Pro Val Thr Lys His Ser Arg Ala Ser Leu |     |     |
| 325   | 330 | 335 |
| Gln Val Leu Gly Thr Val Gly Glu Pro Ile Asn Pro Glu Ala Trp Leu |     |     |
| 340   | 345 | 350 |
| Trp Tyr His Arg Val Val Gly Ala Gln Arg Cys Pro Ile Val Asp Thr |     |     |
| 355   | 360 | 365 |
| Phe Trp Gln Thr Glu Thr Gly Gly His Met Leu Thr Pro Leu Pro Val |     |     |
| 370   | 375 | 380 |
| Pro Thr Pro Met Lys Pro Gly Ser Ala Thr Phe Pro Phe Phe Gly Val |     |     |
| 385   | 390 | 395 |
| Ala Pro Ala Ile Leu Asn Glu Ser Gly Glu Glu Leu Glu Gly Glu Ala |     |     |
| 405   | 410 | 415 |
| Glu Gly Tyr Leu Val Phe Lys Gln Pro Trp Pro Gly Ile Met Arg Thr |     |     |
| 420   | 425 | 430 |
| Val Tyr Gly Asn His Glu Arg Phe Glu Thr Thr Tyr Ser Lys Lys Phe |     |     |
| 435   | 440 | 445 |
| Pro Gly Tyr Tyr Val Thr Gly Asp Gly Cys Gln Arg Asp Gln Asp Gly |     |     |
| 450   | 455 | 460 |
| Tyr Tyr Trp Ile Thr Gly Arg Ile Asp Asp Met Leu Asn Val Ser Gly |     |     |
| 465   | 470 | 475 |
| His Leu Leu Ser Thr Ala Glu Val Glu Ser Ala Leu Val Glu His Glu |     |     |
| 485   | 490 | 495 |
| Ala Val Ala Glu Ala Ala Val Val Gly His Pro His Pro Val Lys Gly |     |     |
| 500   | 505 | 510 |
| Glu Cys Leu Tyr Cys Phe Val Thr Leu Cys Asp Gly His Thr Phe Ser |     |     |
| 515   | 520 | 525 |
| Pro Lys Leu Thr Glu Glu Leu Lys Lys Gln Ile Arg Glu Lys Ile Gly |     |     |
| 530   | 535 | 540 |
| Pro Ile Ala Thr Pro Asp Tyr Ile Gln Asn Ala Pro Gly Leu Pro Lys |     |     |
| 545   | 550 | 555 |
| Thr Arg Ser Gly Lys Ile Met Arg Arg Val Leu Arg Lys Ile Ala Gln |     |     |
| 565   | 570 | 575 |
| Asn Asp His Asp Leu Gly Asp Met Ser Thr Val Ala Asp Pro Ser Val |     |     |
| 580   | 585 | 590 |
| Ile Ser His Leu Phe Ser His Arg Cys Leu Thr Ile Gln             |     |     |
| 595   | 600 | 605 |

&lt;210&gt; 5355

&lt;211&gt; 1596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5355

agaaagtgc tagaagatgt gatccacttt gcctgggaag agaagctctt tctcctggct

60

gatgaggtgt accaggacaa cgtgtactct ccagattgca gattccactc cttcaagaag

120

gtgctgtacg agatggggcc cgagtactcg agtaatgtgg agcttgccctc cttccactcc

180

acctccaagg gctacatggg cgaatgcggc tacagaggag gctacatgga ggtggtcaat  
240  
ttgcaccccg agatcaaggg ccagctgggtg aagctgctgt cgggtgcgcct gtgcccccca  
300  
gtgtctgggc aggccgcgat ggacattggt gtgaaccccc cgggtggcagg agaggagtcc  
360  
tttgagcaat tcagccgaga gaaggagtgc gtcctgggta atctggccaa aaaagcaaag  
420  
ctgacggaag acctgtttaa ccaagtccca ggaattcact gcaaccctt gcagggggcc  
480  
atgtacgcct tccctcggat cttcattcct gccaaagctg tggaggctgc tcaggccccat  
540  
caaattggctc cagacatggt ctactgcatg aagctcctgg aggagactgg catctgtgtc  
600  
gtgcccggca gtggcttttg gcagagggaa ggcacttacc acttcaggat gactatcctc  
660  
cctccagtgg agaagctgaa aacgggtgctg cagaagggtga aagacttcca catcaacttc  
720  
ctggagaagt acgcgtgagg acgcctgagc cccagcggga gacctgtcct tggtcttcc  
780  
tcccaatgcc cgtcaggctg aactcgcctc ccccgtagt ctgcctcggg cctcgcagag  
840  
gccgctggtc acttcgtcat cattttgccc ctggagacgt ctttctttgt gccttgatgt  
900  
tgagagcgcc tctcttttga gcaaacaagc attctatatg caaccagagt agaggggacc  
960  
tgctcagcag gtgtgaccag ggttctctga atctgttatt gtttttgctt ctggaaagt  
1020  
catttggggg ttacaacaac taggatgtgt tgggtgagat gtttcagatc tggagaaatg  
1080  
agcaggtgtc gggaaatgtg tgacttaacc gtggtgaggg ctggaaatcc aaactcacca  
1140  
ccatgatctg tgaaataaag cccttagcgg tgtgaagcat ccggtccttt gaacagaagg  
1200  
gcctggaagg cccctggggc tgagaaaggg tccgcccggg ggcctggagg caggcgccgg  
1260  
gagcgagta gcacgtggac tgggcaggat gttgcactag cttggggtag atgctggggg  
1320  
ctgcggccac ggtcagaggg cccactgtg aggcgtgggt gtgagccagg ctgcaggagg  
1380  
aactgggcct ccgcttccca gcaacgcagc caggcctgag aattctgtgc gcccggcggg  
1440  
ctttgggaat gaggggttcc cttgaacatg cgtaggctgg aaccccgctc gagaggtctc  
1500  
cctgaatttc agtgacacat agtgacagccc ggcagtgtcc cacttccgtg gagagagccg  
1560  
ctgggaatggt gtggacccat cccgcgggtg accggt  
1596

&lt;210&gt; 5356

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5356

Arg Lys Cys Ile Glu Asp Val Ile His Phe Ala Trp Glu Glu Lys Leu  
 1 5 10 15  
 Phe Leu Leu Ala Asp Glu Val Tyr Gln Asp Asn Val Tyr Ser Pro Asp  
 20 25 30  
 Cys Arg Phe His Ser Phe Lys Lys Val Leu Tyr Glu Met Gly Pro Glu  
 35 40 45  
 Tyr Ser Ser Asn Val Glu Leu Ala Ser Phe His Ser Thr Ser Lys Gly  
 50 55 60  
 Tyr Met Gly Glu Cys Gly Tyr Arg Gly Gly Tyr Met Glu Val Val Asn  
 65 70 75 80  
 Leu His Pro Glu Ile Lys Gly Gln Leu Val Lys Leu Leu Ser Val Arg  
 85 90 95  
 Leu Cys Pro Pro Val Ser Gly Gln Ala Ala Met Asp Ile Val Val Asn  
 100 105 110  
 Pro Pro Val Ala Gly Glu Glu Ser Phe Glu Gln Phe Ser Arg Glu Lys  
 115 120 125  
 Glu Ser Val Leu Gly Asn Leu Ala Lys Lys Ala Lys Leu Thr Glu Asp  
 130 135 140  
 Leu Phe Asn Gln Val Pro Gly Ile His Cys Asn Pro Leu Gln Gly Ala  
 145 150 155 160  
 Met Tyr Ala Phe Pro Arg Ile Phe Ile Pro Ala Lys Ala Val Glu Ala  
 165 170 175  
 Ala Gln Ala His Gln Met Ala Pro Asp Met Phe Tyr Cys Met Lys Leu  
 180 185 190  
 Leu Glu Glu Thr Gly Ile Cys Val Val Pro Gly Ser Gly Phe Gly Gln  
 195 200 205  
 Arg Glu Gly Thr Tyr His Phe Arg Met Thr Ile Leu Pro Pro Val Glu  
 210 215 220  
 Lys Leu Lys Thr Val Leu Gln Lys Val Lys Asp Phe His Ile Asn Phe  
 225 230 235 240  
 Leu Glu Lys Tyr Ala  
 245

&lt;210&gt; 5357

&lt;211&gt; 1722

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5357

agtgggatct gtcggcttgt caggtggtgg aggaaaaggc gtcctgcat ggggatccag  
 60  
 acgagccccg tcctgctggc ctccctgggg gtggggctgg tcaactctgct cggcctggct  
 120  
 gtgggtcctt acttggttcg gaggtcccg cggcctcagg tcaactctcct ggaccccaat  
 180  
 gaaaagtacc tgctacgact gctagacaag acgactgtga gccacaacac caagagggtc  
 240  
 cgctttgccc tgcccaccgc ccaccacact ctggggctgc ctgtgggcaa acatattac  
 300  
 ctctccaccc gaattgatgg cagcctgggtc atcaggccat acactctgt caccagtgt  
 360  
 gaggatcaag gctatgtgga tcttgtcatc aaggtctacc tgaagggtgt gcaccccaaa  
 420

tttcctgagg gaggaagat gtctcagtac ctggatagcc tgaagggttg ggatgtggtg  
 480  
 gagtttcggg ggccaagcgg gttgctcact tacactggaa aagggcattt taacattcag  
 540  
 cccaacaaga aatctccacc agaaccccgga gtggcgaaga aactgggaat gattgccggc  
 600  
 gggacaggaa tcacccaat gctacagctg atccgggcca tcctgaaagt ccctgaagat  
 660  
 ccaacccagt gctttctgct ttttgccaac cagacagaaa aggatatcat cttgcgggag  
 720  
 gacttagagg aactgcaggc ccgctatccc aatcgcttta agctctggtt cactctggat  
 780  
 catcccccaa aagattgggc ctacagcaag ggctttgtga ctgccgacat gatccgggaa  
 840  
 cacctgcccc ctccagggga tgatgtgctg gtactgcttt gtgggccacc cccaatggtg  
 900  
 cagctggcct gccatcccaa cttggacaaa ctgggctact cacaaaagat gcgattcacc  
 960  
 tactgagcat cctccagctt ccctggtgct gttcgctgca gttgttcccc atcagtactc  
 1020  
 aagcactata agccttagat tcctttcctc agagtttcag gttttttcag ttacatctag  
 1080  
 agctgaaatc tggatagtag ctgcaggaac aatattcctg tagccatgga agagggccaa  
 1140  
 ggctcagtca ctcttggtat ggctcctaa atctccccgt ggcaacaggt ccaggagag  
 1200  
 cccatggagc agtctcttcc atggagtaag aaggaaggga gcatgtacgc ttggtccaag  
 1260  
 attggctagt tccttgatag catcttactc tcaccttctt tgtgtctgtg atgaaaggaa  
 1320  
 cagtctgtgc aatgggtttt acttaaaactt cactgttcaa cctatgagca aatctgtatg  
 1380  
 tgtgagtata agttgagcat agcatacttc cagaggtggt cttatggaga tggcaagaaa  
 1440  
 ggaggaaatg atttcttcag atctcaaagg agtctgaaat atcatatttc tgtgtgtgtc  
 1500  
 tctctcagcc cctgcccagg ctagaggga acagctactg ataatcgaaa actgctgttt  
 1560  
 gtggcaggaa cccctggctg tgcaataaaa tggggctgag gccctgtgt gatattgaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1680  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 1722

&lt;210&gt; 5358

&lt;211&gt; 321

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5358

Ser Gly Ile Cys Arg Leu Val Arg Trp Trp Arg Lys Arg Arg Ser Val  
 1 5 10 15  
 Met Gly Ile Gln Thr Ser Pro Val Leu Leu Ala Ser Leu Gly Val Gly

20 25 30  
 Leu Val Thr Leu Leu Gly Leu Ala Val Gly Ser Tyr Leu Val Arg Arg  
 35 40 45  
 Ser Arg Arg Pro Gln Val Thr Leu Leu Asp Pro Asn Glu Lys Tyr Leu  
 50 55 60  
 Leu Arg Leu Leu Asp Lys Thr Thr Val Ser His Asn Thr Lys Arg Phe  
 65 70 75 80  
 Arg Phe Ala Leu Pro Thr Ala His His Thr Leu Gly Leu Pro Val Gly  
 85 90 95  
 Lys His Ile Tyr Leu Ser Thr Arg Ile Asp Gly Ser Leu Val Ile Arg  
 100 105 110  
 Pro Tyr Thr Pro Val Thr Ser Asp Glu Asp Gln Gly Tyr Val Asp Leu  
 115 120 125  
 Val Ile Lys Val Tyr Leu Lys Gly Val His Pro Lys Phe Pro Glu Gly  
 130 135 140  
 Gly Lys Met Ser Gln Tyr Leu Asp Ser Leu Lys Val Gly Asp Val Val  
 145 150 155 160  
 Glu Phe Arg Gly Pro Ser Gly Leu Leu Thr Tyr Thr Gly Lys Gly His  
 165 170 175  
 Phe Asn Ile Gln Pro Asn Lys Lys Ser Pro Pro Glu Pro Arg Val Ala  
 180 185 190  
 Lys Lys Leu Gly Met Ile Ala Gly Gly Thr Gly Ile Thr Pro Met Leu  
 195 200 205  
 Gln Leu Ile Arg Ala Ile Leu Lys Val Pro Glu Asp Pro Thr Gln Cys  
 210 215 220  
 Phe Leu Leu Phe Ala Asn Gln Thr Glu Lys Asp Ile Ile Leu Arg Glu  
 225 230 235 240  
 Asp Leu Glu Glu Leu Gln Ala Arg Tyr Pro Asn Arg Phe Lys Leu Trp  
 245 250 255  
 Phe Thr Leu Asp His Pro Pro Lys Asp Trp Ala Tyr Ser Lys Gly Phe  
 260 265 270  
 Val Thr Ala Asp Met Ile Arg Glu His Leu Pro Ala Pro Gly Asp Asp  
 275 280 285  
 Val Leu Val Leu Leu Cys Gly Pro Pro Pro Met Val Gln Leu Ala Cys  
 290 295 300  
 His Pro Asn Leu Asp Lys Leu Gly Tyr Ser Gln Lys Met Arg Phe Thr  
 305 310 315 320  
 Tyr

&lt;210&gt; 5359

&lt;211&gt; 5003

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5359

ncggccggcg gtacgggggt ggtgccgcgc tcctggcccc gcgcgggagg acggcgaggg  
 60  
 cgcctcccag cctgctatgg gatggatgaa gaagagaacc actatgtctc gcagctcagg  
 120  
 gaagtctaca gcagctgcga caccacgggg actggctttc tggaccgcca ggagctgacc  
 180  
 cagctctgcc ttaagcttca cctggagcag cagctgcccc tcctcttgca gacgcttttc  
 240

ggaaacgacc atttcgccag ggttaacttt gaggaattta aggaaggttt tgtggctgtg  
300  
ttgtcttcaa atgctggtgt tcgcccctca gatgaagaca gtagttcttt ggaatcagct  
360  
gcctccagtg ccatccctcc aaagtatgtg aatggttcta agtggatatgg ccgtcggagc  
420  
cggcctgagc tatgtgacgc tgccacagaa gccagacgcg tgccggagca gcaaaccag  
480  
gccagcctga aaagtcacct ctggcgctca gcgtctcttg agagcgtgga gagtcccaag  
540  
tcagatgaag aggccgagag cactaaagaa gctcagaatg aattatttga agcacaagga  
600  
cagctgcaga cctgggatte tgaggacttt gggagcccc agaagtcctg cagcccctcc  
660  
tttgacaccc cagagagcca gatccggggc gtgtgggaag agctgggggt gggcagcagc  
720  
ggacacctga gcgagcagga gctggctgtg gtctgccaga gcgtcgggct ccagggactc  
780  
gagaaagagg aactcgaaga cctgtttaac aaactggatc aagacggaga cggcaaagt  
840  
agtcttgagg aattccagct tggcctcttc agtcatgagc ccgcgctact tctagagtct  
900  
tccactcggg ttaaaccgag caaggcttgg tctcattacc aggtcccaga ggagagcggc  
960  
tgccacacca ccacaacctc atccctcgtg tccctgtgct ccagcctgcg cctcttctcc  
1020  
agcattgacg atggttcttg cttegccttt cctgatcagg tcctggccat gtggaccag  
1080  
gaggggattc agaatggcag ggagatcttg cagagcctgg acttcagcgt ggacgagaag  
1140  
gtgaaccttc tggagctgac ctgggccctt gacaacgagc tcatgacagt ggacagtgcc  
1200  
gtccagcagg cagccctggc ctgctaccac caggagctga gctaccagca agggcagggt  
1260  
gagcagctgg caagggagcg tgacaaggca aggcaggacc tggagagggc cgagaagagg  
1320  
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1380  
aagaaaatca agcatctgga gcaggggtac cgggaaaggc tgagcctcct gcggtctgag  
1440  
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1620  
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1680  
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1740  
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1800  
ggcctgtggg cgcggctgcc caagaaccgg cacagccct catggagccc ggatgggcgc  
1860

agacggcagc tccctggact cggcccagca ggcatttcat tectgggtaa ttctgctcca  
1920  
gtgagtatag aaacggagct gatgatggag caggtaaagg agcattacca agacctcagg  
1980  
acccagctgg agaccaaggt aaattactac gaaagggaaa ttgcggcact gaaaaggaac  
2040  
tttgagaagg agaggaagga catggagcag gctcgcaggc gcgaggtcag cgtgctggag  
2100  
ggtcagaagg ccgacctgga ggagctccac gagaagtctc aggaggtcat ctggggcctg  
2160  
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2220  
tgctgcaccc aggcactgtg tggcctggcc ctgcggcatc acagccacct gcagcagatc  
2280  
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2340  
cgcagagacc tgaccttga gctggaggag ccgcccagc gacccctgcc acgcgggagc  
2400  
cagaggtcgg agcagctgga gctggagagg gcactgaagc tgcagccctg tgcgagcgag  
2460  
aagcgcgccc agatgtgcgt atcgttggcc ctcgaggagg aggagtggga gcttgcccgc  
2520  
gggaagcgag tggacggggc ctccctggaa gcagagatgc aggccctgcc gaaagatggg  
2580  
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2640  
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2700  
ggagccgggc ctgcgccag gcaagcccag gacacagaag ctacgcagag cccggccccc  
2760  
gccctgccc cggcatccca cggcccctca gagaggtggt cacgcatgca gccctgtgga  
2820  
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2880  
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2940  
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3060  
gcctcgagc agcaggcccc ggccgagggc gccctggagc ctgggtgtca caagcacagt  
3120  
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3180  
tectggcagg agcagcttgc tgccccagaa gagggggaga ccaaaatagc gctggagaga  
3240  
gagaaggatg acatggaaac caaacttcta catctggaag acgtcgtccg ggctctggag  
3300  
aaacatgtag atttgagaga gaacgacaga ctggagttcc atagactttc tgaagaaaac  
3360  
actttgttga aaaacgatct gggaagggtt cggcaagagc ttgaagctgc agaaagtact  
3420  
cacgatgcac agaggaagga aattgaggtt ttaaagaaag acaaggaaaa ggctgtctct  
3480

gagatggagg tgctcaacag acagaatcag aactacaagg atcaattatc ccagctcaat  
3540  
gtcagggttc ttcaactggg acaggaggct tctaccacc aggcccåaaa cgaggagcat  
3600  
cgtgtgacca ttcagatggt aacacagagc ctggaggagg tggttcgag tgggcagcag  
3660  
cagagtgacc aaatccaaaa acttagagtt gaacttgaat gcctgaatca ggaacatcag  
3720  
agcctgcagc tgccatggtc agagctgacc cagacccttg aggaaagtca agaccaggtg  
3780  
cagggagctc acctgaggct gaggcaggcc caggcccagc acttgcagga ggtccggctg  
3840  
gtgccccagg accgtgtggc cgagctgcat cgcctgctca gccttcaggg agagcaggcc  
3900  
aggaggcgcc tggatgcaca gcgggaagaa catgagaaac agctgaaagc cacagaagag  
3960  
cgggtggaag aggcggagat gattctgaag aatatggaaa tgctcctcca agagaaagtg  
4020  
gataagctga aggagcagtt tgaaaagaac acgaagtccg acctgctgct gaaggagctg  
4080  
tacgtggaga acgcccacct ggtgagagca cttcaggcca ccgaggagaa gcagcgaggc  
4140  
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4200  
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4260  
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4320  
gtcctgggac atctgaggat tgggattctt tgttcacccc gcagatagtt aatgaatggt  
4380  
ctgccctggg caagatggag gtgggggctg ggggaatatg catgttgag aagccggcgt  
4440  
ttttattagc ggtcctgagt aatttccctt ggcaaaattc ccagttttgc cactctctgg  
4500  
agccagatcc tgggagctgt cagcaaggag caggtaagtg agcagttatg gacagcactt  
4560  
tccatgtggt gcttccgacc ctggctgtca gagtgaatg taaagtcagg gctctgtaca  
4620  
gttttgccat ttcactgttc tgctttaagc ttagcttatt agaactcttg gtggagggtg  
4680  
cgtacacaca ttccagaaaa ggcttcactc gctgggaacg tcaaccagc gagaaaggag  
4740  
gggaagcccc ttctccgggg accttatctg tggactcagg aatgatggtg tttattgcaa  
4800  
atgcacaatc tttttcccat tgaaatgtca tcacactgga aattgtacta tatgtaaaaa  
4860  
aaaaaaaaaa gtatagtttt atatttgaaa tgtatgaaa ttatggccat atggctgatt  
4920  
ggaatgtact actgtaatat aaaaagtcac tgtatttgca ataaattctt ttctattaaa  
4980  
attgaaaaaa aaaaaaaaaa aaa  
5003

&lt;210&gt; 5360

&lt;211&gt; 1406

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5360

Gly Thr Gly Val Val Pro Arg Ser Trp Pro Arg Ala Gly Gly Arg Arg  
 1 5 10 15  
 Arg Arg Leu Pro Ala Cys Tyr Gly Met Asp Glu Glu Glu Asn His Tyr  
 20 25 30  
 Val Ser Gln Leu Arg Glu Val Tyr Ser Ser Cys Asp Thr Thr Gly Thr  
 35 40 45  
 Gly Phe Leu Asp Arg Gln Glu Leu Thr Gln Leu Cys Leu Lys Leu His  
 50 55 60  
 Leu Glu Gln Gln Leu Pro Val Leu Leu Gln Thr Leu Leu Gly Asn Asp  
 65 70 75 80  
 His Phe Ala Arg Val Asn Phe Glu Glu Phe Lys Glu Gly Phe Val Ala  
 85 90 95  
 Val Leu Ser Ser Asn Ala Gly Val Arg Pro Ser Asp Glu Asp Ser Ser  
 100 105 110  
 Ser Leu Glu Ser Ala Ala Ser Ser Ala Ile Pro Pro Lys Tyr Val Asn  
 115 120 125  
 Gly Ser Lys Trp Tyr Gly Arg Arg Ser Arg Pro Glu Leu Cys Asp Ala  
 130 135 140  
 Ala Thr Glu Ala Arg Arg Val Pro Glu Gln Gln Thr Gln Ala Ser Leu  
 145 150 155 160  
 Lys Ser His Leu Trp Arg Ser Ala Ser Leu Glu Ser Val Glu Ser Pro  
 165 170 175  
 Lys Ser Asp Glu Glu Ala Glu Ser Thr Lys Glu Ala Gln Asn Glu Leu  
 180 185 190  
 Phe Glu Ala Gln Gly Gln Leu Gln Thr Trp Asp Ser Glu Asp Phe Gly  
 195 200 205  
 Ser Pro Gln Lys Ser Cys Ser Pro Ser Phe Asp Thr Pro Glu Ser Gln  
 210 215 220  
 Ile Arg Gly Val Trp Glu Glu Leu Gly Val Gly Ser Ser Gly His Leu  
 225 230 235 240  
 Ser Glu Gln Glu Leu Ala Val Val Cys Gln Ser Val Gly Leu Gln Gly  
 245 250 255  
 Leu Glu Lys Glu Glu Leu Glu Asp Leu Phe Asn Lys Leu Asp Gln Asp  
 260 265 270  
 Gly Asp Gly Lys Val Ser Leu Glu Glu Phe Gln Leu Gly Leu Phe Ser  
 275 280 285  
 His Glu Pro Ala Leu Leu Leu Glu Ser Ser Thr Arg Val Lys Pro Ser  
 290 295 300  
 Lys Ala Trp Ser His Tyr Gln Val Pro Glu Glu Ser Gly Cys His Thr  
 305 310 315 320  
 Thr Thr Thr Ser Ser Leu Val Ser Leu Cys Ser Ser Leu Arg Leu Phe  
 325 330 335  
 Ser Ser Ile Asp Asp Gly Ser Gly Phe Ala Phe Pro Asp Gln Val Leu  
 340 345 350  
 Ala Met Trp Thr Gln Glu Gly Ile Gln Asn Gly Arg Glu Ile Leu Gln  
 355 360 365  
 Ser Leu Asp Phe Ser Val Asp Glu Lys Val Asn Leu Leu Glu Leu Thr  
 370 375 380  
 Trp Ala Leu Asp Asn Glu Leu Met Thr Val Asp Ser Ala Val Gln Gln

|   |     |  |  |  |  |  |  |  |  |  |     |  |  |  |  |     |  |  |  |
|---|-----|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|-----|--|--|--|
| 385   | 390 |  |  |  |  |  |  |  |  |  | 395 |  |  |  |  | 400 |  |  |  |
| Ala Ala Leu Ala Cys Tyr His Gln Glu Leu Ser Tyr Gln Gln Gly Gln | 405 |  |  |  |  |  |  |  |  |  | 410 |  |  |  |  | 415 |  |  |  |
| Val Glu Gln Leu Ala Arg Glu Arg Asp Lys Ala Arg Gln Asp Leu Glu | 420 |  |  |  |  |  |  |  |  |  | 425 |  |  |  |  | 430 |  |  |  |
| Arg Ala Glu Lys Arg Asn Leu Glu Phe Val Lys Glu Met Asp Asp Cys | 435 |  |  |  |  |  |  |  |  |  | 440 |  |  |  |  | 445 |  |  |  |
| His Ser Thr Leu Glu Gln Leu Thr Glu Lys Lys Ile Lys His Leu Glu | 450 |  |  |  |  |  |  |  |  |  | 455 |  |  |  |  | 460 |  |  |  |
| Gln Gly Tyr Arg Glu Arg Leu Ser Leu Leu Arg Ser Glu Val Glu Ala | 465 |  |  |  |  |  |  |  |  |  | 470 |  |  |  |  | 475 |  |  |  |
| Glu Arg Glu Leu Phe Trp Glu Gln Ala His Arg Gln Arg Ala Ala Leu | 485 |  |  |  |  |  |  |  |  |  | 490 |  |  |  |  | 495 |  |  |  |
| Glu Trp Asp Val Gly Arg Leu Gln Ala Glu Glu Ala Gly Leu Arg Glu | 500 |  |  |  |  |  |  |  |  |  | 505 |  |  |  |  | 510 |  |  |  |
| Lys Leu Thr Leu Ala Leu Lys Glu Asn Ser Arg Leu Gln Lys Glu Ile | 515 |  |  |  |  |  |  |  |  |  | 520 |  |  |  |  | 525 |  |  |  |
| Val Glu Val Val Glu Lys Leu Ser Asp Ser Glu Arg Leu Ala Leu Lys | 530 |  |  |  |  |  |  |  |  |  | 535 |  |  |  |  | 540 |  |  |  |
| Leu Gln Lys Asp Leu Glu Phe Val Leu Lys Asp Lys Leu Glu Pro Gln | 545 |  |  |  |  |  |  |  |  |  | 550 |  |  |  |  | 555 |  |  |  |
| Ser Ala Glu Leu Leu Ala Gln Glu Glu Arg Phe Ala Ala Val Leu Lys | 565 |  |  |  |  |  |  |  |  |  | 570 |  |  |  |  | 575 |  |  |  |
| Glu Tyr Glu Leu Lys Cys Arg Asp Leu Gln Asp Arg Asn Asp Glu Leu | 580 |  |  |  |  |  |  |  |  |  | 585 |  |  |  |  | 590 |  |  |  |
| Gln Ala Glu Leu Glu Gly Leu Trp Ala Arg Leu Pro Lys Asn Arg His | 595 |  |  |  |  |  |  |  |  |  | 600 |  |  |  |  | 605 |  |  |  |
| Ser Pro Ser Trp Ser Pro Asp Gly Arg Arg Arg Gln Leu Pro Gly Leu | 610 |  |  |  |  |  |  |  |  |  | 615 |  |  |  |  | 620 |  |  |  |
| Gly Pro Ala Gly Ile Ser Phe Leu Gly Asn Ser Ala Pro Val Ser Ile | 625 |  |  |  |  |  |  |  |  |  | 630 |  |  |  |  | 635 |  |  |  |
| Glu Thr Glu Leu Met Met Glu Gln Val Lys Glu His Tyr Gln Asp Leu | 645 |  |  |  |  |  |  |  |  |  | 650 |  |  |  |  | 655 |  |  |  |
| Arg Thr Gln Leu Glu Thr Lys Val Asn Tyr Tyr Glu Arg Glu Ile Ala | 660 |  |  |  |  |  |  |  |  |  | 665 |  |  |  |  | 670 |  |  |  |
| Ala Leu Lys Arg Asn Phe Glu Lys Glu Arg Lys Asp Met Glu Gln Ala | 675 |  |  |  |  |  |  |  |  |  | 680 |  |  |  |  | 685 |  |  |  |
| Arg Arg Arg Glu Val Ser Val Leu Glu Gly Gln Lys Ala Asp Leu Glu | 690 |  |  |  |  |  |  |  |  |  | 695 |  |  |  |  | 700 |  |  |  |
| Glu Leu His Glu Lys Ser Gln Glu Val Ile Trp Gly Leu Gln Glu Gln | 705 |  |  |  |  |  |  |  |  |  | 710 |  |  |  |  | 715 |  |  |  |
| Leu Gln Asp Thr Ala Arg Gly Pro Glu Pro Glu Gln Met Gly Leu Ala | 725 |  |  |  |  |  |  |  |  |  | 730 |  |  |  |  | 735 |  |  |  |
| Pro Cys Cys Thr Gln Ala Leu Cys Gly Leu Ala Leu Arg His His Ser | 740 |  |  |  |  |  |  |  |  |  | 745 |  |  |  |  | 750 |  |  |  |
| His Leu Gln Gln Ile Arg Arg Glu Ala Glu Ala Glu Leu Ser Gly Glu | 755 |  |  |  |  |  |  |  |  |  | 760 |  |  |  |  | 765 |  |  |  |
| Leu Ser Gly Leu Gly Ala Leu Pro Ala Arg Arg Asp Leu Thr Leu Glu | 770 |  |  |  |  |  |  |  |  |  | 775 |  |  |  |  | 780 |  |  |  |
| Leu Glu Glu Pro Pro Gln Gly Pro Leu Pro Arg Gly Ser Gln Arg Ser | 785 |  |  |  |  |  |  |  |  |  | 790 |  |  |  |  | 795 |  |  |  |
| Glu Gln Leu Glu Leu Glu Arg Ala Leu Lys Leu Gln Pro Cys Ala Ser | 805 |  |  |  |  |  |  |  |  |  | 810 |  |  |  |  | 815 |  |  |  |
| Glu Lys Arg Ala Gln Met Cys Val Ser Leu Ala Leu Glu Glu Glu Glu |     |  |  |  |  |  |  |  |  |  |     |  |  |  |  |     |  |  |  |

820 825 830  
 Leu Glu Leu Ala Arg Gly Lys Arg Val Asp Gly Pro Ser Leu Glu Ala  
 835 840 845  
 Glu Met Gln Ala Leu Pro Lys Asp Gly Leu Val Ala Gly Ser Gly Gln  
 850 855 860  
 Glu Gly Thr Arg Gly Leu Leu Pro Leu Arg Pro Gly Cys Gly Glu Arg  
 865 870 875 880  
 Pro Leu Ala Trp Leu Ala Pro Gly Asp Gly Arg Glu Ser Glu Glu Ala  
 885 890 895  
 Ala Gly Ala Gly Pro Arg Arg Arg Gln Ala Gln Asp Thr Glu Ala Thr  
 900 905 910  
 Gln Ser Pro Ala Pro Ala Pro Ala Ser His Gly Pro Ser Glu  
 915 920 925  
 Arg Trp Ser Arg Met Gln Pro Cys Gly Val Asp Gly Asp Ile Val Pro  
 930 935 940  
 Lys Glu Pro Glu Pro Phe Gly Ala Ser Ala Ala Gly Leu Glu Gln Pro  
 945 950 955 960  
 Gly Ala Arg Glu Leu Pro Leu Leu Gly Thr Glu Arg Asp Ala Ser Gln  
 965 970 975  
 Thr Gln Pro Arg Met Trp Glu Pro Pro Leu Arg Pro Ala Ala Ser Cys  
 980 985 990  
 Arg Gly Gln Ala Glu Arg Leu Gln Ala Ile Gln Glu Glu Arg Ala Arg  
 995 1000 1005  
 Ser Trp Ser Arg Gly Thr Gln Glu Gln Ala Ser Glu Gln Gln Ala Arg  
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 Ala Glu Gly Ala Leu Glu Pro Gly Cys His Lys His Ser Val Glu Val  
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 Ala Arg Arg Gly Ser Leu Pro Ser His Leu Gln Leu Ala Asp Pro Gln  
 1045 1050 1055  
 Gly Ser Trp Gln Glu Gln Leu Ala Ala Pro Glu Glu Gly Glu Thr Lys  
 1060 1065 1070  
 Ile Ala Leu Glu Arg Glu Lys Asp Asp Met Glu Thr Lys Leu Leu His  
 1075 1080 1085  
 Leu Glu Asp Val Val Arg Ala Leu Glu Lys His Val Asp Leu Arg Glu  
 1090 1095 1100  
 Asn Asp Arg Leu Glu Phe His Arg Leu Ser Glu Glu Asn Thr Leu Leu  
 1105 1110 1115 1120  
 Lys Asn Asp Leu Gly Arg Val Arg Gln Glu Leu Glu Ala Ala Glu Ser  
 1125 1130 1135  
 Thr His Asp Ala Gln Arg Lys Glu Ile Glu Val Leu Lys Lys Asp Lys  
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 Glu Lys Ala Cys Ser Glu Met Glu Val Leu Asn Arg Gln Asn Gln Asn  
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 Tyr Lys Asp Gln Leu Ser Gln Leu Asn Val Arg Val Leu Gln Leu Gly  
 1170 1175 1180  
 Gln Glu Ala Ser Thr His Gln Ala Gln Asn Glu Glu His Arg Val Thr  
 1185 1190 1195 1200  
 Ile Gln Met Leu Thr Gln Ser Leu Glu Glu Val Val Arg Ser Gly Gln  
 1205 1210 1215  
 Gln Gln Ser Asp Gln Ile Gln Lys Leu Arg Val Glu Leu Glu Cys Leu  
 1220 1225 1230  
 Asn Gln Glu His Gln Ser Leu Gln Leu Pro Trp Ser Glu Leu Thr Gln  
 1235 1240 1245  
 Thr Leu Glu Glu Ser Gln Asp Gln Val Gln Gly Ala His Leu Arg Leu

1250                      1255                      1260  
 Arg Gln Ala Gln Ala Gln His Leu Gln Glu Val Arg Leu Val Pro Gln  
 1265                      1270                      1275                      1280  
 Asp Arg Val Ala Glu Leu His Arg Leu Leu Ser Leu Gln Gly Glu Gln  
                     1285                      1290                      1295  
 Ala Arg Arg Arg Leu Asp Ala Gln Arg Glu Glu His Glu Lys Gln Leu  
                     1300                      1305                      1310  
 Lys Ala Thr Glu Glu Arg Val Glu Glu Ala Glu Met Ile Leu Lys Asn  
                     1315                      1320                      1325  
 Met Glu Met Leu Leu Gln Glu Lys Val Asp Lys Leu Lys Glu Gln Phe  
                     1330                      1335                      1340  
 Glu Lys Asn Thr Lys Ser Asp Leu Leu Leu Lys Glu Leu Tyr Val Glu  
 1345                      1350                      1355                      1360  
 Asn Ala His Leu Val Arg Ala Leu Gln Ala Thr Glu Glu Lys Gln Arg  
                     1365                      1370                      1375  
 Gly Ala Glu Lys Gln Ser Arg Leu Leu Glu Glu Lys Val Arg Ala Leu  
                     1380                      1385                      1390  
 Asn Lys Leu Val Ser Arg Ile Ala Pro Ala Ala Leu Ser Val  
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 <211> 1080  
 <212> DNA  
 <213> Homo sapiens

<400> 5361  
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 180  
 catccacaag gccagcagct gccaacagct gccctagacc tatcaacaag acaacttcat  
 240  
 ggctcccaat gggaatggag gctgggcccg ccctacttag agcaggggaa agaacttttc  
 300  
 cctcaaagag ccggggcagg atgccagaat ctaactacat cctctcccgg tttgcagttc  
 360  
 taggaagtgg aatttgctgc cctaggcgtg gtctaaagga caagtttaga aatgattcaa  
 420  
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 480  
 aaaaattgta atgatggctc ggccaccgcc ttggctagag tccactgca cgcgtgtcgt  
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 720  
 caccgccag cacgcccagc ttttttttgt attttagta gagacgggtt tttatcatgt  
 780  
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 840

tgctgggacc acaggcgtga gccaccgcgc ccggccgtct gtctgggtttt caaaccaatc  
 900  
 aatgaacccg taagcctctt tggatatatat aacaatgaaa aaattcatta agccatgaaa  
 960  
 tctagaaata agtcatatct ctgagttgat aaaatgcttt tctgaacata catttttaggt  
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<210> 5362

<211> 165

<212> PRT

<213> Homo sapiens

<400> 5362

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Pro | Thr | Val | Asp | Pro | Leu | Leu | Gln | Lys | Asn | Cys | Asn | Asp | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Thr | Ala | Leu | Ala | Arg | Val | Pro | Leu | His | Ala | Cys | Arg | Glu | Gly | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Ala | Ser | Pro | Ser | Gly | Phe | Phe | Cys | Cys | Cys | Cys | Cys | Phe | Leu | Arg |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Trp | Ser | Leu | Ala | Leu | Xaa | Ala | Gln | Thr | Glu | Val | Gln | Arg | Pro | Asp | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Asn | Ser | Leu | Gln | Pro | Pro | Pro | Gly | Phe | Lys | Gly | Phe | Ser | Cys | Leu |     |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Ser | Leu | Leu | Ser | Ser | Trp | Asp | Tyr | Arg | His | Pro | Pro | Ala | Arg | Pro | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Phe | Phe | Cys | Ile | Phe | Ser | Arg | Asp | Gly | Val | Leu | Ser | Cys | Trp | Pro | Gly |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Trp | Ser | Arg | Thr | Pro | Asp | Leu | Met | Xaa | Ser | Thr | Arg | Leu | Gly | Leu | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asn | Cys | Trp | Asp | His | Arg | Arg | Glu | Pro | Pro | Arg | Pro | Ala | Val | Cys | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Phe | Lys | Pro | Ile | Asn | Glu | Pro | Val | Ser | Leu | Phe | Gly | Ile | Tyr | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Glu | Lys | Ile | His |     |     |     |     |     |     |     |     |     |     |     |
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<210> 5363

<211> 894

<212> DNA

<213> Homo sapiens

<400> 5363

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 120  
 cggcgttgca ccggctctgt gaggacctcc cctctgagca cttcccttgt gacaggccac  
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 ttcccttgtg acaggccag gacgaggtgg ccaggcggcc cccatggcgt ccctggtcta  
 240  
 ggccggagaac cgctgggagc atgagtgaga acctcgacaa cgagggcccg aagcccatgg  
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agagctgtgg ccaggagagc agcagtgtccc tgagctgtccc taccgtctcg gtgccccctg  
 360  
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 420  
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 480  
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 540  
 ggccgctttg gtctgcagcc ccacaaaacc aaactctttg ggcaaccacc ctgcgccttt  
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 780  
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 894

&lt;210&gt; 5364

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5364

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Leu | Pro | Ser | Arg | Cys | Pro | Leu | Gln | Pro | Arg | Gln | Pro | Trp | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Trp | Arg | Lys | Arg | Ala | Leu | Gly | Arg | Leu | Gln | Gly | Xaa | Gly | Pro | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Gly | Leu | Tyr | Ser | Tyr | Ile | Arg | Asp | Asp | Leu | Phe | Thr | Ser | Glu | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Phe | Lys | Leu | Glu | Leu | Gln | Asn | Ala | Pro | Arg | His | Ala | Ser | Phe | Ser | Asp |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Val | Arg | Arg | Phe | Leu | Gly | Arg | Phe | Gly | Leu | Gln | Pro | His | Lys | Thr | Lys |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Leu | Phe | Gly | Gln | Pro | Pro | Cys | Ala | Phe | Val | Thr | Phe | Arg | Ser | Ala | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Arg | Asp | Lys | Ala | Leu | Arg | Val | Leu | His | Gly | Ala | Leu | Trp | Lys | Gly |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Pro | Leu | Ser | Val | Ala | Trp | Pro | Gly | Pro | Arg | Pro | Thr | Pro | Trp | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gly | Gly | Gly | Xaa | Gln | Glu | Gly | Glu | Ser | Glu | Pro | Pro | Val | Thr | Arg | Xaa |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Gly | Arg | Arg | Gly | Asp | Pro | Ser | Met | Asp | Ser | Ala | Leu | Xaa | Leu | Ser | Ser |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |
| Leu | Ser | Gly | Ser | Ser | Trp | Ser | Ala | Ser | Arg | Cys | Cys | Arg | Asn | Xaa | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Glu | Ile | Gly | Ser | Thr | Asn | Arg | Ala | Leu | Arg |     |     |     |     |     |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     |     |     |

&lt;210&gt; 5365

&lt;211&gt; 1824

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5365

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120  
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180  
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240  
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300  
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360  
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420  
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480  
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540  
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600  
gccagggagg agcagagctt agccgagtg gagggaagg tgaaggagcg gagagaacgc  
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720  
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780  
ctggaccggc agggtcactc tctggagctg ctgctgctgc agctggagga gcggagcaca  
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900  
agtgtgcagt gcccagaggt tgcccccca accagacca ggactgtgtg cagagttccc  
960  
ggacagattg aagtgtctaa aggccttcta gaggatgtgg tgcctgatgc cacctccgcg  
1020  
taccctacc tcctcctgta tgagagccgc cagaggcgct acctcggtc ttcgccggag  
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 1824

<210> 5366

<211> 477

<212> PRT

<213> Homo sapiens

<400> 5366

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ala | Val | Glu | Leu | Ala | Arg | Lys | Leu | Gln | Glu | Glu | Ala | Thr | Cys |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Ile | Cys | Leu | Asp | Tyr | Phe | Thr | Asp | Pro | Val | Met | Thr | Thr | Cys | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Asn | Phe | Cys | Arg | Ala | Cys | Ile | Gln | Leu | Ser | Trp | Glu | Lys | Ala | Arg |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Lys | Lys | Gly | Arg | Arg | Lys | Arg | Lys | Gly | Ser | Phe | Pro | Cys | Pro | Glu |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Cys | Arg | Glu | Met | Ser | Pro | Gln | Arg | Asn | Leu | Leu | Pro | Asn | Arg | Leu | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Lys | Val | Ala | Glu | Met | Ala | Gln | Gln | His | Pro | Gly | Leu | Gln | Lys | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asp | Leu | Cys | Gln | Glu | His | His | Glu | Pro | Leu | Lys | Leu | Phe | Cys | Gln | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Gln | Ser | Pro | Ile | Cys | Val | Val | Cys | Arg | Glu | Ser | Arg | Glu | His | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | His | Arg | Val | Leu | Pro | Ala | Glu | Glu | Ala | Val | Gln | Gly | Tyr | Lys | Leu |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Leu | Glu | Glu | Asp | Met | Glu | Tyr | Leu | Arg | Glu | Gln | Ile | Thr | Arg | Thr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gly | Asn | Leu | Gln | Ala | Arg | Glu | Glu | Gln | Ser | Leu | Ala | Glu | Trp | Gln | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Lys | Val | Lys | Glu | Arg | Arg | Glu | Arg | Ile | Val | Leu | Glu | Phe | Glu | Lys | Met |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Asn | Leu | Tyr | Leu | Val | Glu | Glu | Glu | Gln | Arg | Leu | Leu | Gln | Ala | Leu | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Glu | Glu | Glu | Glu | Thr | Ala | Ser | Arg | Leu | Arg | Glu | Ser | Val | Ala | Cys |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Asp | Arg | Gln | Gly | His | Ser | Leu | Glu | Leu | Leu | Leu | Gln | Leu | Glu |     |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Glu | Arg | Ser | Thr | Gln | Gly | Pro | Leu | Gln | Met | Leu | Gln | Asp | Met | Lys | Glu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Pro | Leu | Ser | Arg | Lys | Asn | Asn | Val | Ser | Val | Gln | Cys | Pro | Glu | Val | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Pro | Thr | Arg | Pro | Arg | Thr | Val | Cys | Arg | Val | Pro | Gly | Gln | Ile | Glu |

275                      280                      285  
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 Tyr Pro Tyr Leu Leu Leu Tyr Glu Ser Arg Gln Arg Arg Tyr Leu Gly  
 305                      310                      315                      320  
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 325                      330                      335  
 Tyr Pro Cys Ala Val Gly Gln Thr Ala Phe Ser Ser Gly Arg His Tyr  
 340                      345                      350  
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 Ser Val Ser Asp Gly Ser His Leu His Thr Tyr Ser Gln Ala Thr Phe  
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 Pro Gly Pro Leu Gln Pro Phe Phe Cys Leu Gly Ala Pro Lys Ser Gly  
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 465                      470                      475

&lt;210&gt; 5367

&lt;211&gt; 549

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5367

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&lt;210&gt; 5368

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<400> 5368

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      35           40           45
Thr Lys Glu Gly Ala Ala Ser Pro Ala Pro Glu Thr Pro Gln Pro Thr
      50           55           60
Ser Pro Glu Thr Ser Pro Lys Glu Thr Pro Met Gln Pro Pro Glu Ile
65           70           75           80
Pro Ala Pro Ala His Arg Pro Pro Glu Asp Glu Gly Glu Glu Asn Glu
      85           90           95
Gly Glu Glu Asp Glu Glu Trp Glu Asp Ile Ser Glu Asp Glu Glu Glu
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Glu Glu Ile Glu Val Glu Glu Gly Asp Glu Glu Glu Pro Ala Gln Asp
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 Gly Gly Arg Pro Ala Pro Ser Pro Leu Ser Pro Ser Leu Arg Leu Pro  
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 Pro His Leu Pro Ala Ser Ser Leu Pro His His His Pro Ser Ser Ala  
 65 70 75 80  
 His Leu Pro Pro Leu Pro Ala Ser Ala Gly Ala Ser Val Leu Thr Pro  
 85 90 95  
 Ser Leu Pro Pro Thr Pro Pro Pro Leu Ser Gly Gly Ala Ala Asp Arg  
 100 105 110  
 Ser Glu Arg Ala Pro Ser Pro Pro Pro Pro Leu Pro Pro Ser Pro  
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<210> 5372

<211> 368

<212> PRT

<213> Homo sapiens

<400> 5372

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| Xaa | His | Ser | Ala | Ser | Ala | Leu | Met | Tyr | His | Arg | Asn | Glu | Ser | Leu | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ser | Leu | Gln | Ser | Pro | Gln | Thr | Glu | Leu | Arg | Ser | Asp | Phe | Gln | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Val | Gly | Phe | Gly | Gly | Ile | His | Ser | Thr | Pro | Ser | Thr | Val | Leu | Ser |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Asp | Gln | Ala | Lys | Tyr | Leu | Asn | Pro | Leu | Leu | Gly | Glu | Trp | Lys | His | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Ala | Ser | Leu | Ala | Pro | Arg | Met | Ser | Asn | Gln | Gly | Ile | Ala | Val | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asn | Asn | Phe | Val | Tyr | Leu | Ile | Gly | Gly | Asp | Asn | Asn | Val | Gln | Gly | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Ala | Glu | Ser | Arg | Cys | Trp | Arg | Tyr | Asp | Pro | Arg | His | Asn | Arg | Trp |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Xaa | Pro | Asp | Pro | Val | Pro | Ala | Ala | Gly | Ala | Arg | Arg | Pro | Val | Xaa | Val |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Cys | Val | Val | Gly | Arg | Tyr | Ile | Tyr | Ala | Val | Ala | Gly | Arg | Asp | Tyr | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Asp | Leu | Asn | Ala | Val | Glu | Arg | Tyr | Asp | Pro | Ala | Thr | Asn | Ser | Trp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ala | Tyr | Val | Ala | Pro | Leu | Lys | Arg | Glu | Val | Tyr | Ala | His | Ala | Gly | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Thr | Leu | Glu | Gly | Lys | Met | Tyr | Ile | Thr | Cys | Gly | Arg | Arg | Gly | Glu | Asp |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Leu | Lys | Glu | Thr | His | Cys | Tyr | Asp | Pro | Gly | Ser | Asn | Thr | Trp | His |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Thr | Leu | Ala | Asp | Gly | Pro | Val | Arg | Arg | Ala | Trp | His | Gly | Met | Ala | Thr |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Leu | Leu | Asn | Lys | Leu | Tyr | Val | Ile | Gly | Gly | Ser | Asn | Asn | Asp | Ala | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     | 240 |     |     |  |  |
| Tyr | Arg | Arg | Asp | Val | His | Gln | Val | Ala | Cys | Tyr | Ser | Cys | Thr | Ser | Gly |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Gln | Trp | Ser | Ser | Val | Cys | Pro | Leu | Pro | Ala | Gly | His | Gly | Glu | Pro | Gly |  |  |
|     |     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |  |  |
| Ile | Ala | Val | Leu | Asp | Asn | Arg | Ile | Tyr | Val | Leu | Gly | Gly | Arg | Ser | His |  |  |
|     |     |     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |  |  |
| Asn | Arg | Gly | Ser | Arg | Thr | Gly | Tyr | Val | His | Ile | Tyr | Asp | Val | Glu | Lys |  |  |
|     |     |     |     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |  |  |
| Asp | Cys | Trp | Glu | Glu | Gly | Pro | Gln | Leu | Asp | Asn | Ser | Ile | Ser | Gly | Leu |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Ala | Ala | Cys | Val | Leu | Thr | Leu | Pro | Arg | Ser | Leu | Leu | Leu | Glu | Pro | Pro |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Arg | Gly | Thr | Pro | Asp | Arg | Ser | Gln | Ala | Asp | Pro | Asp | Phe | Ala | Ser | Glu |  |  |
|     |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |  |  |
| Val | Met | Ser | Val | Ser | Asp | Trp | Glu | Glu | Phe | Asp | Asn | Ser | Ser | Glu | Asp |  |  |
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<211> 4221

<212> DNA

<213> Homo sapiens

**<400> 5373**

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| 120         |            |            |            |             |            |
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| 180         |            |            |            |             |            |
| acccgcgaga  | agaaaagtct | tcaggaaaaa | ggcaagttat | cagctgaaga  | aaatcccgat |
| 240         |            |            |            |             |            |
| gactctgaag  | ttccatcatc | atcaggaatt | aactctacca | aatcccaaga  | caaagatgtc |
| 300         |            |            |            |             |            |
| aatgaaggag  | aaacatcaga | tggagtggag | aagtcagttc | acaagggtct  | tgtttccatg |
| 360         |            |            |            |             |            |
| cttggagaga  | atgaagatga | tgaggaggaa | gaggaagaag | aggaggaggga | ggaggaggag |
| 420         |            |            |            |             |            |
| gaagaaacac  | ctgagcaacc | cactgcgggc | gatgtatttg | tattggagat  | ggttctcaat |
| 480         |            |            |            |             |            |
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| 540         |            |            |            |             |            |
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| 600         |            |            |            |             |            |
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| 780         |            |            |            |             |            |
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| 840         |            |            |            |             |            |
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| 900         |            |            |            |             |            |

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<211> 886

<212> PRT

<213> Homo sapiens

<400> 5374

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| Met | Ser | Gly | Phe | Ser | Pro | Glu | Leu | Ile | Asp | Tyr | Leu | Glu | Gly | Lys | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Phe | Glu | Glu | Phe | Glu | Arg | Arg | Arg | Glu | Glu | Arg | Lys | Thr | Arg | Glu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Lys | Ser | Leu | Gln | Glu | Lys | Gly | Lys | Leu | Ser | Ala | Glu | Glu | Asn | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Asp | Ser | Glu | Val | Pro | Ser | Ser | Ser | Gly | Ile | Asn | Ser | Thr | Lys | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Asp | Lys | Asp | Val | Asn | Glu | Gly | Glu | Thr | Ser | Asp | Gly | Val | Arg | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Val | His | Lys | Val | Phe | Ala | Ser | Met | Leu | Gly | Glu | Asn | Glu | Asp | Asp |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Pro | Glu | Gln | Pro | Thr | Ala | Gly | Asp | Val | Phe | Val | Leu | Glu | Met | Val | Leu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     |     | 125 |     |
| Asn | Arg | Glu | Thr | Lys | Lys | Met | Met | Lys | Glu | Lys | Arg | Pro | Arg | Ser | Lys |
|     |     |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Leu | Pro | Arg | Ala | Leu | Arg | Gly | Leu | Met | Gly | Glu | Ala | Asn | Ile | Arg | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Arg | Gly | Glu | Arg | Glu | Glu | Ala | Ile | Leu | Met | Cys | Met | Glu | Ile | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Arg | Gln | Ala | Pro | Leu | Ala | Tyr | Glu | Pro | Phe | Ser | Thr | Leu | Ala | Met | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Tyr | Glu | Asp | Gln | Gly | Asp | Met | Glu | Lys | Ser | Leu | Gln | Phe | Glu | Leu | Ile |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Ala | His | Leu | Asn | Pro | Ser | Asp | Thr | Glu | Glu | Trp | Val | Arg | Leu | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Met | Ser | Leu | Glu | Gln | Asp | Asn | Ile | Lys | Gln | Ala | Ile | Phe | Cys | Tyr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Thr | Lys | Ala | Leu | Lys | Tyr | Glu | Pro | Thr | Asn | Val | Arg | Tyr | Leu | Trp | Glu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Ser | Ser | Leu | Tyr | Glu | Gln | Met | Gly | Asp | His | Lys | Met | Ala | Met | Asp |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gly | Tyr | Arg | Arg | Ile | Leu | Asn | Leu | Leu | Ser | Pro | Ser | Asp | Gly | Glu | Arg |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Phe | Met | Gln | Leu | Ala | Arg | Asp | Met | Ala | Lys | Ser | Tyr | Tyr | Glu | Ala | Asn |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asp | Val | Thr | Ser | Ala | Ile | Asn | Ile | Ile | Asp | Glu | Ala | Phe | Ser | Lys | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Gln | Gly | Leu | Val | Ser | Met | Glu | Asp | Val | Asn | Ile | Ala | Ala | Glu | Leu | Tyr |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Ile | Ser | Asn | Lys | Gln | Tyr | Asp | Lys | Ala | Leu | Glu | Ile | Ile | Thr | Asp | Phe |

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 Pro Ile Asp Ile Thr Val Lys Leu Met Val Cys Leu Val His Leu Asn  
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 405 410 415  
 Pro Glu Asp Met Gly Asp Leu Tyr Leu Asp Val Ala Glu Ala Phe Leu  
 420 425 430  
 Asp Val Gly Glu Tyr Asn Ser Ala Leu Pro Leu Leu Ser Ala Leu Val  
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 Ser Thr Leu Gln Gln Gln Leu Gly Gln Pro Glu Lys Ala Leu Glu Ala  
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 Leu Glu Pro Met Tyr Asp Pro Asp Thr Leu Ala Gln Asp Ala Asn Ala  
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 580 585 590  
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 690 695 700  
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 Val Leu Asn Gly His Asn Ala Phe Val Ser Gly Ser Phe Lys His Ala  
 740 745 750  
 Leu Gly Gln Tyr Val Gln Ala Phe Arg Thr His Pro Asp Glu Pro Leu  
 755 760 765  
 Tyr Ser Phe Cys Ile Gly Leu Thr Phe Ile His Met Ala Ser Gln Lys

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785              790              795              800
Asn Arg Tyr Leu Ser Leu Arg Gly Pro Cys Gln Glu Ser Phe Tyr Asn
      805              810              815
Leu Gly Arg Gly Leu His Gln Leu Gly Leu Ile His Leu Ala Ile His
      820              825              830
Tyr Tyr Gln Lys Ala Leu Glu Leu Pro Pro Leu Val Val Glu Gly Ile
      835              840              845
Glu Leu Asp Gln Leu Asp Leu Arg Arg Asp Ile Ala Tyr Asn Leu Ser
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 <212> PRT  
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20          25          30
Leu Gln Arg Ala Ala Ala Ser Ser Glu Ser Pro Val Ala Arg Thr Trp
35          40          45
Val Gln Leu Lys Ser Ile Ser Leu Phe Ala Phe Ser Glu Ala Ser Pro

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|   |     |    |     |     |
|---|-----|----|-----|-----|
| 50  |     | 55 |     | 60  |
| Ser Ser Leu Leu Lys Lys Asn Thr Cys Arg Cys His Leu Pro Arg Ile |     |    |     |     |
| 65  |     | 70 |     | 75  |
| Cys His Arg Pro Arg Thr Ile Ser Ile Phe Asn Pro Arg Asn His Thr |     |    |     |     |
|   | 85  |    | 90  | 95  |
| Gly Asp Gly Trp Gly Met Phe Met Ser Pro Phe Tyr Arg Ser Gly Asp |     |    |     |     |
|   | 100 |    | 105 | 110 |

&lt;210&gt; 5377

&lt;211&gt; 1452

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5377

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1200

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<211> 374

<212> PRT

<213> Homo sapiens

<400> 5378

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| Xaa | Arg | Ala | Gly | Ser | Arg | Phe | Arg | His | Glu | Ile | Ser | Phe | Thr | Trp | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ser | Met | Tyr | Leu | Val | Ala | Ala | Ser | Ala | Ala | Val | Phe | Ser | Arg | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Arg | Ser | Gly | Leu | Arg | Leu | Gly | Ser | Arg | Gly | Leu | Cys | Thr | Arg | Leu | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Pro | Pro | Arg | Arg | Ala | Pro | Asp | Gln | Ala | Ala | Glu | Ile | Gly | Ser | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Ser | Thr | Lys | Ala | Gln | Gly | Pro | Gln | Gln | Gln | Pro | Gly | Ser | Glu | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Ser | Tyr | Ala | Lys | Lys | Val | Ala | Leu | Trp | Leu | Ala | Gly | Leu | Leu | Gly |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ala | Gly | Gly | Thr | Val | Ser | Val | Val | Tyr | Ile | Phe | Gly | Asn | Asn | Pro | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Glu | Asn | Gly | Ala | Lys | Ile | Pro | Asp | Glu | Phe | Asp | Asn | Asp | Pro | Ile |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Val | Gln | Gln | Leu | Arg | Arg | Thr | Tyr | Lys | Tyr | Phe | Lys | Asp | Tyr | Arg |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Gln | Met | Ile | Ile | Glu | Pro | Thr | Ser | Pro | Cys | Leu | Leu | Pro | Asp | Pro | Leu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |     |
| Gln | Glu | Pro | Tyr | Tyr | Gln | Pro | Pro | Tyr | Thr | Leu | Val | Leu | Glu | Leu | Thr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gly | Val | Leu | Leu | His | Pro | Glu | Trp | Ser | Leu | Ala | Thr | Gly | Trp | Arg | Phe |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Lys | Lys | Arg | Pro | Gly | Ile | Glu | Thr | Leu | Phe | Gln | Gln | Leu | Ala | Pro | Leu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Tyr | Glu | Ile | Val | Ile | Phe | Thr | Ser | Glu | Thr | Gly | Met | Thr | Ala | Phe | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Leu | Ile | Asp | Ser | Val | Asp | Pro | His | Gly | Phe | Ile | Ser | Tyr | Arg | Leu | Phe |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Arg | Asp | Ala | Thr | Arg | Tyr | Met | Asp | Gly | His | His | Val | Lys | Asp | Ile | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Cys | Leu | Asn | Arg | Asp | Pro | Ala | Arg | Val | Val | Val | Val | Asp | Cys | Lys | Lys |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Glu | Ala | Phe | Arg | Leu | Gln | Pro | Tyr | Asn | Gly | Val | Ala | Leu | Arg | Pro | Trp |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Asp | Gly | Asn | Ser | Asp | Asp | Arg | Val | Leu | Leu | Asp | Leu | Ser | Ala | Phe | Leu |

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 Lys Thr Ile Ala Leu Asn Gly Val Glu Asp Val Arg Thr Val Leu Glu  
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 His Tyr Ala Leu Glu Asp Asp Pro Leu Ala Ala Phe Lys Gln Arg Gln  
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<211> 3213

<212> DNA

<213> Homo sapiens

<400> 5379

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2160  
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2400  
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2700

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 3213

&lt;210&gt; 5380

&lt;211&gt; 903

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5380

Met Pro Pro Thr Glu Asp Arg Ser Trp Trp Arg Gly Lys Arg Gly Phe  
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 20 25 30  
 Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu Ser  
 35 40 45  
 Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala Thr  
 50 55 60  
 Gln Ala Arg Met Val Leu Arg Cys Cys Ser Glu Phe Ile Glu Ala His  
 65 70 75 80  
 Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser Ser Asn Ile  
 85 90 95  
 Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro Glu Leu Ser  
 100 105 110  
 Gly Pro Ala Phe Leu Gln Asp Ile His Ser Val Ser Ser Leu Cys Lys  
 115 120 125  
 Leu Tyr Phe Arg Glu Leu Pro Asn Pro Leu Leu Thr Tyr Gln Leu Tyr  
 130 135 140  
 Gly Lys Phe Ser Glu Ala Met Ser Val Pro Gly Glu Glu Glu Arg Leu  
 145 150 155 160  
 Val Arg Val His Asp Val Ile Gln Gln Leu Pro Pro Pro His Tyr Arg  
 165 170 175  
 Thr Leu Glu Tyr Leu Leu Arg His Leu Ala Arg Met Ala Arg His Ser  
 180 185 190  
 Ala Asn Thr Ser Met His Ala Arg Asn Leu Ala Ile Val Trp Ala Pro  
 195 200 205  
 Asn Leu Leu Arg Ser Met Glu Leu Glu Ser Val Gly Met Gly Gly Ala  
 210 215 220  
 Ala Ala Phe Arg Glu Val Arg Val Gln Ser Val Val Val Glu Phe Leu

225                                      230                                      235                                      240  
 Leu Thr His Val Asp Val Leu Phe Ser Asp Thr Phe Thr Ser Ala Gly  
    245                                      250                                      255  
 Leu Asp Pro Ala Gly Arg Cys Leu Leu Pro Arg Pro Lys Ser Leu Ala  
    260                                      265                                      270  
 Gly Ser Cys Pro Ser Thr Arg Leu Leu Thr Leu Glu Glu Ala Gln Ala  
    275                                      280                                      285  
 Arg Thr Gln Gly Arg Leu Gly Thr Pro Thr Glu Pro Thr Thr Pro Lys  
    290                                      295                                      300  
 Ala Pro Ala Ser Pro Ala Glu Arg Arg Lys Gly Glu Arg Gly Glu Lys  
 305                                      310                                      315                                      320  
 Gln Arg Lys Pro Gly Gly Ser Ser Trp Lys Thr Phe Phe Ala Leu Gly  
    325                                      330                                      335  
 Arg Gly Pro Ser Val Pro Arg Lys Lys Pro Leu Pro Trp Leu Gly Gly  
    340                                      345                                      350  
 Thr Arg Ala Pro Pro Gln Pro Ser Ala Trp Leu Asp Asp Gly Asp Glu  
    355                                      360                                      365  
 Leu Asp Phe Ser Pro Pro Arg Cys Leu Glu Gly Leu Arg Gly Leu Asp  
    370                                      375                                      380  
 Phe Asp Pro Leu Thr Phe Arg Cys Ser Ser Pro Thr Pro Gly Asp Pro  
 385                                      390                                      395                                      400  
 Ala Pro Pro Ala Ser Pro Ala Pro Pro Ala Pro Ala Ser Ala Phe Pro  
    405                                      410                                      415  
 Pro Arg Val Thr Pro Gln Ala Ile Ser Pro Arg Gly Pro Thr Ser Pro  
    420                                      425                                      430  
 Ala Ser Pro Ala Ala Leu Asp Ile Ser Glu Pro Leu Ala Val Ser Val  
    435                                      440                                      445  
 Pro Pro Ala Val Leu Glu Leu Leu Gly Ala Gly Gly Ala Pro Ala Ser  
    450                                      455                                      460  
 Ala Thr Pro Thr Pro Ala Leu Ser Pro Gly Arg Ser Leu Arg Pro His  
 465                                      470                                      475                                      480  
 Leu Ile Pro Leu Leu Leu Arg Gly Ala Glu Ala Pro Leu Thr Asp Ala  
    485                                      490                                      495  
 Cys Gln Gln Glu Met Cys Ser Lys Leu Arg Gly Ala Gln Gly Pro Leu  
    500                                      505                                      510  
 Ala Arg Leu Met Ala Leu Ala Leu Ala Glu Arg Ala Gln Gln Val Ala  
    515                                      520                                      525  
 Glu Gln Gln Ser Gln Gln Glu Cys Gly Gly Thr Pro Pro Ala Ser Gln  
    530                                      535                                      540  
 Ser Pro Phe His Arg Ser Leu Ser Leu Glu Val Gly Gly Glu Pro Leu  
 545                                      550                                      555                                      560  
 Gly Thr Ser Gly Ser Gly Pro Pro Pro Asn Ser Leu Ala His Pro Gly  
    565                                      570                                      575  
 Ala Trp Val Pro Gly Pro Pro Pro Tyr Leu Pro Arg Gln Gln Ser Asp  
    580                                      585                                      590  
 Gly Ser Leu Leu Arg Ser Gln Arg Pro Met Gly Thr Ser Arg Arg Gly  
    595                                      600                                      605  
 Leu Arg Gly Pro Ala Gln Val Ser Ala Gln Leu Arg Ala Gly Gly Gly  
    610                                      615                                      620  
 Gly Arg Asp Ala Pro Glu Ala Ala Ala Gln Ser Pro Cys Ser Val Pro  
 625                                      630                                      635                                      640  
 Ser Gln Val Pro Thr Pro Gly Phe Phe Ser Pro Ala Pro Arg Glu Cys  
    645                                      650                                      655  
 Leu Pro Pro Phe Leu Gly Val Pro Lys Pro Gly Leu Tyr Pro Leu Gly

660 665 670  
 Pro Pro Ser Phe Gln Pro Ser Ser Pro Ala Pro Val Trp Arg Ser Ser  
 675 680 685  
 Leu Gly Pro Pro Ala Pro Leu Asp Arg Gly Glu Asn Leu Tyr Tyr Glu  
 690 695 700  
 Ile Gly Ala Ser Glu Gly Ser Pro Tyr Ser Gly Pro Thr Arg Ser Trp  
 705 710 715 720  
 Ser Pro Phe Arg Ser Met Pro Pro Asp Arg Leu Asn Ala Ser Tyr Gly  
 725 730 735  
 Met Leu Gly Gln Ser Pro Pro Leu His Arg Ser Pro Asp Phe Leu Leu  
 740 745 750  
 Ser Tyr Pro Pro Ala Pro Ser Cys Phe Pro Pro Asp His Leu Gly Tyr  
 755 760 765  
 Ser Ala Pro Gln His Pro Ala Arg Arg Pro Thr Pro Pro Glu Pro Leu  
 770 775 780  
 Tyr Val Asn Leu Ala Leu Gly Pro Arg Gly Pro Ser Pro Ala Ser Ser  
 785 790 795 800  
 Ser Ser Ser Ser Pro Pro Ala His Pro Arg Ser Arg Ser Asp Pro Gly  
 805 810 815  
 Pro Pro Val Pro Arg Leu Pro Gln Lys Gln Arg Ala Pro Trp Gly Pro  
 820 825 830  
 Arg Thr Pro His Arg Val Pro Gly Pro Trp Gly Pro Pro Glu Pro Leu  
 835 840 845  
 Leu Leu Tyr Arg Ala Ala Pro Pro Ala Tyr Gly Arg Gly Gly Glu Leu  
 850 855 860  
 His Arg Gly Ser Leu Tyr Arg Asn Gly Gly Gln Arg Gly Glu Gly Ala  
 865 870 875 880  
 Gly Pro Pro Pro Pro Tyr Pro Thr Pro Ser Trp Ser Leu His Ser Glu  
 885 890 895  
 Gly Gln Thr Arg Ser Tyr Cys  
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&lt;210&gt; 5381

&lt;211&gt; 1576

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5381

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 300  
 gacgccatcg ccgaccaccc tgcatgacca gaaagtgtg tcattggcta cccccacgac  
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 420  
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gatgagatcc tgggtggtgaa acgtcttcca aaaaccaggt ctgggaaggt catgcggcgg  
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 1020  
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 1560  
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 1576

&lt;210&gt; 5382

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5382

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Met | Ala | Met | Arg | Pro | Phe | Phe | Gly | Ile | Val | Pro | Val | Leu | Met | Asp |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Lys | Gly | Ser | Val | Val | Glu | Gly | Ser | Asn | Val | Ser | Gly | Ala | Leu | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Ser | Gln | Ala | Trp | Pro | Gly | Met | Ala | Arg | Thr | Ile | Tyr | Gly | Asp | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Arg | Phe | Val | Asp | Ala | Tyr | Phe | Lys | Ala | Tyr | Pro | Gly | Tyr | Tyr | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Gly | Asp | Gly | Ala | Tyr | Arg | Thr | Glu | Gly | Gly | Tyr | Tyr | Gln | Ile | Thr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80      |
| Gly | Arg | Met | Asp | Asp | Val | Ile | Asn | Ile | Ser | Gly | His | Arg | Leu | Gly Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95      |
| Ala | Glu | Ile | Glu | Asp | Ala | Ile | Ala | Asp | His | Pro | Ala | Val | Pro | Glu Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |         |
| Ala | Val | Ile | Gly | Tyr | Pro | His | Asp | Ile | Lys | Gly | Glu | Ala | Ala | Phe Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |         |
| Phe | Ile | Val | Val | Lys | Asp | Ser | Ala | Gly | Asp | Ser | Asp | Val | Val | Val Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |         |
| Glu | Leu | Lys | Ser | Met | Val | Ala | Thr | Lys | Ile | Ala | Lys | Tyr | Ala | Val Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160     |
| Asp | Glu | Ile | Leu | Val | Val | Lys | Arg | Leu | Pro | Lys | Thr | Arg | Ser | Gly Lys |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175     |
| Val | Met | Arg | Arg | Leu | Leu | Arg | Lys | Ile | Ile | Thr | Ser | Glu | Ala | Gln Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |         |
| Leu | Gly | Asp | Thr | Thr | Thr | Leu | Glu | Asp | Pro | Ser | Ile | Ile | Ala | Glu Ile |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |         |
| Leu | Ser | Val | Tyr | Gln | Lys | Cys | Lys | Asp | Lys | Gln | Ala | Ala | Ala | Lys     |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |         |

&lt;210&gt; 5383

&lt;211&gt; 2027

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5383

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 360  
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 420  
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 1080  
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 1860  
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 1920  
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 2027

&lt;210&gt; 5384

&lt;211&gt; 508

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5384

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Val | Ser | Thr | Gln | Glu | Lys | Glu | Leu | Val | Gln | Pro | Phe | Ser | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Phe | Pro | Lys | Val | Glu | Tyr | Ile | Ala | Arg | Ala | Gly | Ala | Trp | Ala | Met | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Asp | Arg | Pro | Gln | Gln | Trp | Leu | Gln | Leu | Val | Leu | Leu | Pro | Pro | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Phe | Ile | Pro | Ser | Thr | Glu | Asn | Glu | Gln | Arg | Leu | Ala | Ser | Ala |     |

|         |     |     |     |         |     |     |     |     |         |     |     |     |     |     |         |
|---------|-----|-----|-----|---------|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|---------|
| 50      |     |     |     | 55      |     |     |     | 60  |         |     |     |     |     |     |         |
| Arg 65  | Ala | Val | Pro | Arg 70  | Asn | Val | Gln | Pro | Tyr 75  | Val | Val | Tyr | Glu | Glu | Val 80  |
| Thr     | Asn | Val | Trp | Ile 85  | Asn | Val | His | Asp | Ile 90  | Phe | Tyr | Pro | Phe | Pro | Gln 95  |
| Ser     | Glu | Gly | Glu | Asp 100 | Glu | Leu | Cys | Phe | Leu 105 | Arg | Ala | Asn | Glu | Cys | Lys 110 |
| Thr     | Gly | Phe | Cys | His 115 | Leu | Tyr | Lys | Val | Thr 120 | Ala | Val | Leu | Lys | Ser | Gln 125 |
| Gly     | Tyr | Asp | Trp | Ser 130 | Glu | Pro | Phe | Ser | Pro 135 | Gly | Glu | Gly | Glu | Gln | Ser 140 |
| Leu 145 | Thr | Asn | Ala | Ile 150 | Trp | Val | Asn | Glu | Glu 155 | Thr | Lys | Leu | Val | Tyr | Phe 160 |
| Gln     | Gly | Thr | Lys | Asp 165 | Thr | Pro | Leu | Glu | His 170 | His | Leu | Tyr | Val | Val | Ser 175 |
| Tyr     | Glu | Ala | Ala | Gly 180 | Glu | Ile | Val | Arg | Leu 185 | Thr | Thr | Pro | Gly | Phe | Ser 190 |
| His     | Ser | Cys | Ser | Met 195 | Met | Ser | Gln | Asn | Phe 200 | Asp | Met | Phe | Val | Ser | His 205 |
| Ser     | Ser | Val | Ser | Thr 210 | Pro | Pro | Cys | Val | His 215 | Val | Tyr | Lys | Leu | Ser | Gly 220 |
| Pro 225 | Asp | Asp | Asp | Pro 230 | Leu | His | Lys | Gln | Pro 235 | Arg | Phe | Trp | Ala | Ser | Met 240 |
| Met     | Glu | Ala | Ala | Lys 245 | Ile | Phe | His | Phe | His 250 | Thr | Arg | Ser | Asp | Val | Arg 255 |
| Leu     | Tyr | Gly | Met | Ile 260 | Tyr | Lys | Pro | His | Ala 265 | Leu | Gln | Pro | Gly | Lys | Lys 270 |
| His     | Pro | Thr | Val | Leu 275 | Phe | Val | Tyr | Gly | Gly 280 | Pro | Gln | Val | Gln | Leu | Val 285 |
| Asn     | Asn | Ser | Phe | Lys 290 | Gly | Ile | Lys | Tyr | Leu 295 | Arg | Leu | Asn | Thr | Leu | Ala 300 |
| Ser 305 | Leu | Gly | Tyr | Ala 310 | Val | Val | Val | Ile | Asp 315 | Gly | Arg | Gly | Ser | Cys | Gln 320 |
| Arg     | Gly | Leu | Arg | Phe 325 | Glu | Gly | Ala | Leu | Lys 330 | Asn | Gln | Met | Gly | Gln | Val 335 |
| Glu     | Ile | Glu | Asp | Gln 340 | Val | Glu | Gly | Leu | Gln 345 | Phe | Val | Ala | Glu | Lys | Tyr 350 |
| Gly     | Phe | Ile | Asp | Leu 355 | Ser | Arg | Val | Ala | Ile 360 | His | Gly | Trp | Ser | Tyr | Gly 365 |
| Gly     | Phe | Leu | Ser | Leu 370 | Met | Gly | Leu | Ile | His 375 | Lys | Pro | Gln | Val | Phe | Lys 380 |
| Val 385 | Ala | Ile | Ala | Gly 390 | Ala | Pro | Val | Thr | Val 395 | Trp | Met | Ala | Tyr | Asp | Thr 400 |
| Gly     | Tyr | Thr | Glu | Arg 405 | Tyr | Met | Asp | Val | Pro 410 | Glu | Asn | Asn | Gln | His | Gly 415 |
| Tyr     | Glu | Ala | Gly | Ser 420 | Val | Ala | Leu | His | Val 425 | Glu | Lys | Leu | Pro | Asn | Glu 430 |
| Pro     | Asn | Arg | Leu | Leu 435 | Ile | Leu | His | Gly | Phe 440 | Leu | Asp | Glu | Asn | Val | His 445 |
| Phe     | Phe | His | Thr | Asn 450 | Phe | Leu | Val | Ser | Gln 455 | Leu | Ile | Arg | Ala | Gly | Lys 460 |
| Pro 465 | Tyr | Gln | Leu | Gln 470 | Val | Ala | Leu | Pro | Pro 475 | Val | Ser | Pro | Gln | Ile | Tyr 480 |
| Pro     | Asn | Glu | Arg | His     | Ser | Ile | Arg | Cys | Pro     | Glu | Ser | Gly | Glu | His | Tyr     |

485 490  
Glu Val Thr Leu Leu His Phe Leu Gln Glu Tyr Leu  
500 505

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<210> 5385
<211> 314
<212> DNA
<213> Homo sapiens
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180
cagcctggcc tcctcgggcc ctacgctgca cccaccttcc acttcctgga gatgcacca
240
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314
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<210> 5386
<211> 100
<212> PRT
<213> Homo sapiens
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<400> 5386
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      20              25              30
Ser Val Pro Ser Pro Pro Arg Ala Gln Pro Leu Gly Arg Gly Leu His
      35              40              45
Ala Gly Trp Leu Ala Arg Leu Gly Gln Pro Gly Leu Leu Gly Pro Tyr
      50              55              60
Ala Ala Pro Thr Phe His Phe Leu Glu Met His Pro His Leu Gln Glu
65              70              75              80
Asn Cys Phe Arg Lys Cys Leu Gln His Ser Arg Glu Trp Asn Lys Gln
      85              90              95
Gly Pro Asn Ala
      100

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<211> 375
<212> DNA
<213> Homo sapiens
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120
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 tggcgcaact tccccatcac cttegctgc tatgcggccc tcttctgcct ctcgccctcc  
 240  
 atcatctacc ccaccaccta tgtccagttc ctgtcccacg gccgttcgcg ggaccacgcc  
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 375

<210> 5388

<211> 125

<212> PRT

<213> Homo sapiens

<400> 5388

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| Xaa | Asp | Ser | Pro | Arg | Phe | Ser | Arg | Met | Ala | Met | Ala | Ala | Arg | Met | Lys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Gln | Met | Ala | Tyr | Thr | Ala | Thr | His | Gln | Ser | Met | Gly | Asn | Trp | Ser | Met |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Phe | Thr | Trp | Cys | Phe | Cys | Phe | Ser | Met | Thr | Leu | Ile | Ile | Leu | Ile | Val |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Leu | Cys | Gly | Leu | Gln | Ala | Arg | Phe | Pro | Leu | Ser | Trp | Arg | Asn | Phe |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Pro | Ile | Thr | Phe | Ala | Cys | Tyr | Ala | Ala | Leu | Phe | Cys | Leu | Ser | Ala | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ile | Tyr | Pro | Thr | Thr | Tyr | Val | Gln | Phe | Leu | Ser | His | Gly | Arg | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Asp | His | Ala | Ile | Ala | Ala | Thr | Phe | Phe | Ser | Cys | Ile | Ala | Cys | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Ala | Tyr | Ala | Thr | Glu | Met | Ala | Trp | Thr | Arg | Ala | Arg | Ala |     |     |     |
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<210> 5389

<211> 1711

<212> DNA

<213> Homo sapiens

<400> 5389

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 240  
 gccgaggcct agcgccggct ttgtgtccga ggcgccggcg gcggcggggg gaggcggagc  
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 360  
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 420

gcctgggcct ggggaagctg acgccggtcg tccggaagcc aggaggaggc gtgaggccgc  
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 960  
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 1020  
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 1080  
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 1711

&lt;210&gt; 5390

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5390

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Cys | Val | His | Tyr | Lys | Phe | Ser | Ser | Lys | Leu | Asn | Tyr | Asp | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Val | Thr | Phe | Asp | Gly | Leu | His | Ile | Ser | Leu | Cys | Asp | Leu | Lys | Lys | Gln |

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                20                25                30
Ile Met Gly Arg Glu Lys Leu Lys Ala Ala Asp Cys Asp Leu Gln Ile
                35                40                45
Thr Asn Ala Gln Thr Lys Glu Glu Tyr Thr Asp Asp Asn Ala Leu Ile
                50                55                60
Pro Lys Asn Ser Ser Val Ile Val Arg Arg Ile Pro Ile Gly Gly Val
65                70                75                80
Lys Ser Thr Ser Lys Thr Tyr Val Ile Ser Arg Thr Glu Pro Ala Met
                85                90                95
Ala Thr Thr Lys Ala Val Cys Lys Asn Thr Ile Ser His Phe Phe Tyr
                100                105                110
Thr Leu Leu Leu Pro Leu
                115

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&lt;210&gt; 5391

&lt;211&gt; 797

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5391

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120
aaacagtaca aattattatt attattatta ttgagacagg gtcttgctct gtcattcagg
180
ctaaagtgca gtggcacaat caagggtcac tgcaacctca gcctcaacct cctggggtca
240
agcaatcctc ctgcctcagc ctcttgagca gcagggacta cagggtgcaca ccaccatgtc
300
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420
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480
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540
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600
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660
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gatgtagggg gccacag
797

```

&lt;210&gt; 5392

&lt;211&gt; 55

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Asn | Leu | Leu | Lys | Val | Asn | Lys | Gln | Tyr | Lys | Leu | Leu | Leu | Leu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Leu | Arg | Gln | Gly | Leu | Ala | Leu | Ser | Phe | Arg | Leu | Lys | Cys | Ser | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Ile | Lys | Gly | His | Cys | Asn | Leu | Ser | Leu | Asn | Leu | Leu | Gly | Ser | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Pro | Pro | Ala | Ser | Ala | Ser |     |     |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  |     |     |     |     |     |     |     |     |     |

<213> Homo sapiens

|              |            |             |             |             |            |
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| 60           | cttttgggca | tcttgagca   | cgtgggcaac  | gtccaggatt  | tcttcttggc |
| 120          | ttcctctacc | gcaagacaga  | cttctatcgc  | ttgctgagcc  | acccatcgga |
| 180          | ttcccgcccg | gggagcgca   | ggccttgggtg | ctgaggtat   | tcaaaacctt |
| 240          | gcccgtcagg | atgatgagaa  | gagaaggcag  | gaacttgaag  | agaaaatcag |
| 300          | gaggaagagg | ccaagactgt  | gtcagctgct  | gcagctgaga  | aggagccagt |
| 360          | gtccaggaaa | tagagattga  | ctccaccaca  | gaattggatg  | ggcatcagga |
| 420          | gtgcagcctc | caggccctgt  | gaaggaaatg  | gcccattggtt | cacaggaggc |
| 480          | ggagcagttg | ctgggtgctgc | tgaagtccct  | aggggaaccac | caattcttcc |
| 540          | gagcagttcc | agaaaaatcc  | cgacagttac  | aatggtgctg  | tccgagagaa |
| 600          | tcacaggact | atactgacct  | ggagggtcagg | gtgccagtac  | ccaagcacgt |
| 660          | aagcaggtct | cagtggccct  | tagcagcagc  | tccattcgtg  | tggccatgct |
| 720          | ggggagcgcg | tcctcatgga  | agggaagctc  | acccacaaga  | tcaacactga |
| 780          | tggagtctcg | agccggggaa  | gtgcgtttttg | gtgaacctga  | gcaaggtggg |
| 840          | tggaaagcca | tcttgagggg  | agaagagccc  | atcgacattg  | acaagatcaa |
| 900          | tccatggcca | ccgtggatga  | ggagggaacag | gcggtgttgg  | acaggcttac |
| 960          | caccagaagc | tgcagggcaa  | gccacagagc  | catgagctga  | aagtccatga |
| 1020         | aaggggtggg | atgctgaagg  | ttctcccttc  | cgaggccagc  | gattcgacct |
| 1080         | aacatctccc | cgggggctgt  | gcagttttta  | tgaccagaag  | gaaaggaaac |
| 1140         |            |             |             |             | cctcgccggt |

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<210> 5394

<211> 354

<212> PRT

<213> Homo sapiens

<400> 5394

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Tyr | Asp | Gln | Ala | Leu | Leu | Gly | Ile | Leu | Gln | His | Val | Gly | Asn | Val |
| 1   |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |     |
| Gln | Asp | Phe | Leu | Arg | Val | Leu | Phe | Gly | Phe | Leu | Tyr | Arg | Lys | Thr | Asp |
|     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Phe | Tyr | Arg | Leu | Leu | Arg | His | Pro | Ser | Asp | Arg | Met | Gly | Phe | Pro | Pro |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gly | Ala | Ala | Gln | Ala | Leu | Val | Leu | Gln | Val | Phe | Lys | Thr | Phe | Asp | His |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Met | Ala | Arg | Gln | Asp | Asp | Glu | Lys | Arg | Arg | Gln | Glu | Leu | Glu | Glu | Lys |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Arg | Arg | Lys | Glu | Glu | Glu | Glu | Ala | Lys | Thr | Val | Ser | Ala | Ala | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Glu | Lys | Glu | Pro | Val | Pro | Val | Pro | Val | Gln | Glu | Ile | Glu | Ile | Asp |
|     | 100 |     |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Thr | Thr | Glu | Leu | Asp | Gly | His | Gln | Glu | Val | Glu | Lys | Val | Gln | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Pro | Gly | Pro | Val | Lys | Glu | Met | Ala | His | Gly | Ser | Gln | Glu | Ala | Glu | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Gly | Ala | Val | Ala | Gly | Ala | Ala | Glu | Val | Pro | Arg | Glu | Pro | Pro | Ile |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Pro | Arg | Ile | Gln | Glu | Gln | Phe | Gln | Lys | Asn | Pro | Asp | Ser | Tyr | Asn |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gly | Ala | Val | Arg | Glu | Asn | Tyr | Thr | Trp | Ser | Gln | Asp | Tyr | Thr | Asp | Leu |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Val | Arg | Val | Pro | Val | Pro | Lys | His | Val | Val | Lys | Gly | Lys | Gln | Val |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
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|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asn | Gly | Glu | Arg | Val | Leu | Met | Glu | Gly | Lys | Leu | Thr | His | Lys | Ile | Asn |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Thr | Glu | Ser | Ser | Leu | Trp | Ser | Leu | Glu | Pro | Gly | Lys | Cys | Val | Leu | Val |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |  |  |  |  |
| Asn | Leu | Ser | Lys | Val | Gly | Glu | Tyr | Trp | Trp | Asn | Ala | Ile | Leu | Glu | Gly |  |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |  |
| Glu | Glu | Pro | Ile | Asp | Ile | Asp | Lys | Ile | Asn | Lys | Glu | Arg | Ser | Met | Ala |  |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |  |  |  |  |
| Thr | Val | Asp | Glu | Glu | Glu | Gln | Ala | Val | Leu | Asp | Arg | Leu | Thr | Phe | Asp |  |  |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |  |  |  |
| Tyr | His | Gln | Lys | Leu | Gln | Gly | Lys | Pro | Gln | Ser | His | Glu | Leu | Lys | Val |  |  |  |  |
| 305 |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |  |  |  |  |
| His | Glu | Met | Leu | Lys | Lys | Gly | Trp | Asp | Ala | Glu | Gly | Ser | Pro | Phe | Arg |  |  |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |  |  |
| Gly | Gln | Arg | Phe | Asp | Pro | Ala | Met | Phe | Asn | Ile | Ser | Pro | Gly | Ala | Val |  |  |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |  |  |
| Gln | Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |

&lt;210&gt; 5395

&lt;211&gt; 3711

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5395

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4578

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| Leu | Gly | Ala | Glu | Ser | His | Thr | Asp | Ser | Leu | Arg | Asn | Ser | Ser | Thr | Glu | Leu | Gly | Ala | Glu | Ser | His | Thr | Asp | Ser | Leu | Arg | Asn | Ser | Ser | Thr | Glu | Leu | Gly | Ala | Glu | Ser | His | Thr | Asp | Ser | Leu | Arg | Asn | Ser | Ser | Thr | Glu | Leu | Gly | Ala | Glu | Ser | His | Thr | Asp | Ser | Leu | Arg | Asn | Ser | Ser | Thr | Glu |
| Ile | Arg | His | Arg | Ala | Asp | His | Pro | Pro | Ala | Glu | Val | Thr | Ser | His | Ala | Ile | Arg | His | Arg | Ala | Asp | His | Pro | Pro | Ala | Glu | Val | Thr | Ser | His | Ala | Ile | Arg | His | Arg | Ala | Asp | His | Pro | Pro | Ala | Glu | Val | Thr | Ser | His | Ala | Ile | Arg | His | Arg | Ala | Asp | His | Pro | Pro | Ala | Glu | Val | Thr | Ser | His | Ala |
| Ala | Ser | Gly | Ala | Lys | Ala | Asp | Gln | Glu | Glu | Gln | Ile | His | Pro | Arg | Ser | Ala | Ser | Gly | Ala | Lys | Ala | Asp | Gln | Glu | Glu | Gln | Ile | His | Pro | Arg | Ser | Ala | Ser | Gly | Ala | Lys | Ala | Asp | Gln | Glu | Glu | Gln | Ile | His | Pro | Arg | Ser | Ala | Ser | Gly | Ala | Lys | Ala | Asp | Gln | Glu | Glu | Gln | Ile | His | Pro | Arg | Ser |
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| Ile | Lys | Asp | Gly | Glu | Asp | Leu | Lys | Asp | His | Ser | Thr | Glu | Ser | Lys | Lys | Ile | Lys | Asp | Gly | Glu | Asp | Leu | Lys | Asp | His | Ser | Thr | Glu | Ser | Lys | Lys | Ile | Lys | Asp | Gly | Glu | Asp | Leu | Lys | Asp | His | Ser | Thr | Glu | Ser | Lys | Lys | Ile | Lys | Asp | Gly | Glu | Asp | Leu | Lys | Asp | His | Ser | Thr | Glu | Ser | Lys | Lys |
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| Ile | Ser | Glu | Asn | Thr | Asp | Ala | Ser | Gly | Lys | Ile | Glu | Lys | Tyr | Asn | Val | Ile | Ser | Glu | Asn | Thr | Asp | Ala | Ser | Gly | Lys | Ile | Glu | Lys | Tyr | Asn | Val | Ile | Ser | Glu | Asn | Thr | Asp | Ala | Ser | Gly | Lys | Ile | Glu | Lys | Tyr | Asn | Val | Ile | Ser | Glu | Asn | Thr | Asp | Ala | Ser | Gly | Lys | Ile | Glu | Lys | Tyr | Asn | Val |
| Pro | Leu | Asn | Arg | Leu | Lys | Met | Met | Phe | Glu | Lys | Gly | Glu | Pro | Thr | Gln | Pro | Leu | Asn | Arg | Leu | Lys | Met | Met | Phe | Glu | Lys | Gly | Glu | Pro | Thr | Gln | Pro | Leu | Asn | Arg | Leu | Lys | Met | Met | Phe | Glu | Lys | Gly | Glu | Pro | Thr | Gln | Pro | Leu | Asn | Arg | Leu | Lys | Met | Met | Phe | Glu | Lys | Gly | Glu | Pro | Thr | Gln |
| Thr | Lys | Ile | Leu | Arg | Ala | Gln | Ser | Arg | Ser | Ala | Ser | Gly | Arg | Lys | Ile | Thr | Lys | Ile | Leu | Arg | Ala | Gln | Ser | Arg | Ser | Ala | Ser | Gly | Arg | Lys | Ile | Thr | Lys | Ile | Leu | Arg | Ala | Gln | Ser | Arg | Ser | Ala | Ser | Gly | Arg | Lys | Ile | Thr | Lys | Ile | Leu | Arg | Ala | Gln | Ser | Arg | Ser | Ala | Ser | Gly | Arg | Lys | Ile |
| Ser | Glu | Asn | Ser | Tyr | Ser | Leu | Asp | Asp | Leu | Glu | Ile | Gly | Pro | Gly | Gln | Ser | Glu | Asn | Ser | Tyr | Ser | Leu | Asp | Asp | Leu | Glu | Ile | Gly | Pro | Gly | Gln | Ser | Glu | Asn | Ser | Tyr | Ser | Leu | Asp | Asp | Leu | Glu | Ile | Gly | Pro | Gly | Gln | Ser | Glu | Asn | Ser | Tyr | S   |     |     |     |     |     |     |     |     |     |     |

|   |     |     |
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| 545   | 550 | 555 |
| Asp Glu Ile Ser Lys Pro Glu Val Pro Glu Asp Val Asp Leu Asp Leu |     |     |
| 565   | 570 | 575 |
| Lys Lys Leu Arg Arg Ser Ser Ser Leu Lys Glu Arg Ser Arg Pro Phe |     |     |
| 580   | 585 | 590 |
| Thr Val Ala Ala Ser Phe Gln Ser Thr Ser Val Lys Ser Pro Lys Thr |     |     |
| 595   | 600 | 605 |
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| 610   | 615 | 620 |
| Glu Ser Val Gly Gly Arg Val Ala Glu Arg Lys Gln Val Glu Asn Ala |     |     |
| 625   | 630 | 635 |
| Lys Ala Ser Lys Lys Asn Gly Asn Val Gly Lys Thr Thr Trp Gln Asn |     |     |
| 645   | 650 | 655 |
| Lys Glu Ser Lys Gly Glu Thr Gly Lys Arg Ser Lys Glu Gly His Ser |     |     |
| 660   | 665 | 670 |
| Leu Glu Met Glu Asn Glu Asn Leu Val Glu Asn Gly Ala Asp Ser Asp |     |     |
| 675   | 680 | 685 |
| Glu Asp Asp Asn Ser Phe Leu Lys Gln Gln Ser Pro Gln Glu Pro Lys |     |     |
| 690   | 695 | 700 |
| Ser Leu Asn Trp Ser Ser Phe Val Asp Asn Thr Phe Ala Glu Glu Phe |     |     |
| 705   | 710 | 715 |
| Thr Thr Gln Asn Gln Lys Ser Gln Asp Val Glu Leu Trp Glu Gly Glu |     |     |
| 725   | 730 | 735 |
| Val Val Lys Glu Leu Ser Val Glu Glu Gln Ile Lys Arg Asn Arg Tyr |     |     |
| 740   | 745 | 750 |
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&lt;210&gt; 5397

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5397

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| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Gly | Pro | Thr | Met | Gly | Arg | Ser | Gln | Gly | Ser | Pro | Met | Asp | Pro | Met | Val |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Met | Lys | Arg | Pro | Gln | Leu | Tyr | Gly | Met | Gly | Ser | Asn | Pro | His | Ser | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Pro | Gln | Gln | Ser | Ser | Pro | Tyr | Pro | Gly | Gly | Ser | Tyr | Gly | Pro | Pro | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Gln | Arg | Tyr | Pro | Ile | Gly | Ile | Gln | Gly | Arg | Thr | Pro | Gly | Ala | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Gly | Met | Gln | Tyr | Pro | Gln | Gln | Gln | Met | Pro | Pro | Gln | Tyr | Gly | Gln |
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| Gln | Gly | Val | Ser | Gly | Tyr | Cys | Gln | Gln | Gly | Gln | Gln | Pro | Tyr | Tyr | Ser |
|     |     | 100 |     |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Gln | Gln | Pro | Gln | Pro | Pro | His | Leu | Pro | Pro | Gln | Ala | Gln | Tyr | Leu | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Ser | Gln | Ser | Gln | Gln | Arg | Tyr | Gln | Pro | Gln | Gln | Asp | Met | Ser | Gln | Glu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Tyr | Gly | Thr | Arg | Ser | Gln | Pro | Pro | Leu | Ala | Pro | Gly | Lys | Pro | Asn |
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|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Arg | His | Tyr | Cys | Ala | Asp | Leu | Glu | Met |     |     |     |     |     |     |
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<211> 507

<212> PRT

<213> Homo sapiens

<400> 5402

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| Xaa | Leu | Ser | Lys | Glu | Gly | Ala | Pro | Ala | Leu | Gly | Pro | Trp | Val | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Lys | Ala | Arg | Pro | Arg | Glu | Phe | Trp | Ala | Arg | Cys | Lys | Arg | Pro | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Arg | His | Val | Ala | Asp | Met | Val | Ile | Ser | Glu | Ser | Met | Asp | Ile | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Arg | Ile | Arg | Gly | Gly | Leu | Asp | Leu | Ala | Phe | Gln | Leu | Ala | Thr | Pro |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Glu | Ile | Phe | Leu | Lys | Lys | Ala | Leu | Lys | His | Val | Leu | Ser | Asp | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Thr | Lys | Leu | Ser | Ser | Asn | Ala | Leu | Val | Phe | Arg | Ile | Cys | His | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Val | Tyr | Ile | Trp | Pro | Ser | Ser | Asp | Ile | Asn | Thr | Ile | Pro | Gly | Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|-----|-----|--|--|--|--|--|--|--|--|--|
|     |     |     |     |     |     |     |     |     |     | 100 |     |     |     |     | 105 |     |  |  |  | 110 |     |  |  |  |  |  |  |  |  |  |
| Leu | Thr | Asp | Ala | Ser | Ala | Cys | Lys | Asn | Ile | Leu | Arg | Phe | Ile | Gln | Phe |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 115 |     |     |     |     | 120 |     |  |  |  | 125 |     |  |  |  |  |  |  |  |  |  |
| Glu | Pro | Glu | Glu | Asp | Ile | Lys | Arg | Lys | Phe | Met | Arg | Lys | Lys | Asp | Lys |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 130 |     |     |     |     | 135 |     |  |  |  | 140 |     |  |  |  |  |  |  |  |  |  |
| Lys | Leu | Ser | Asp | Met | His | Gln | Ile | Val | Asn | Ile | Asp | Leu | Met | Leu | Glu |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
| 145 |     |     |     |     |     |     |     |     |     |     | 150 |     |     |     |     | 155 |  |  |  |     | 160 |  |  |  |  |  |  |  |  |  |
| Met | Ser | Thr | Ser | Leu | Ala | Ala | Val | Thr | Pro | Ile | Ile | Glu | Arg | Glu | Ser |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 165 |     |     |     |     | 170 |     |  |  |  | 175 |     |  |  |  |  |  |  |  |  |  |
| Gly | Gly | His | His | Tyr | Val | Asn | Met | Thr | Leu | Pro | Val | Asp | Ala | Val | Ile |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 180 |     |     |     |     | 185 |     |  |  |  | 190 |     |  |  |  |  |  |  |  |  |  |
| Ser | Val | Ala | Pro | Glu | Glu | Thr | Trp | Gly | Lys | Val | Arg | Lys | Leu | Leu | Val |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 195 |     |     |     |     | 200 |     |  |  |  | 205 |     |  |  |  |  |  |  |  |  |  |
| Asp | Ala | Ile | His | Asn | Gln | Leu | Thr | Asp | Met | Glu | Lys | Cys | Ile | Leu | Lys |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 210 |     |     |     |     | 215 |     |  |  |  | 220 |     |  |  |  |  |  |  |  |  |  |
| Tyr | Met | Lys | Arg | Thr | Ser | Ile | Val | Val | Pro | Glu | Pro | Leu | His | Phe | Leu |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
| 225 |     |     |     |     |     |     |     |     |     |     | 230 |     |     |     |     | 235 |  |  |  |     | 240 |  |  |  |  |  |  |  |  |  |
| Leu | Pro | Gly | Lys | Lys | Asn | Leu | Val | Thr | Ile | Ser | Tyr | Pro | Ser | Gly | Ile |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 245 |     |     |     |     | 250 |     |  |  |  | 255 |     |  |  |  |  |  |  |  |  |  |
| Pro | Asp | Gly | Gln | Leu | Gln | Ala | Tyr | Arg | Lys | Glu | Leu | His | Asp | Leu | Phe |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 260 |     |     |     |     | 265 |     |  |  |  | 270 |     |  |  |  |  |  |  |  |  |  |
| Asn | Leu | Pro | His | Asp | Arg | Pro | Tyr | Phe | Lys | Arg | Ser | Asn | Ala | Tyr | His |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 275 |     |     |     |     | 280 |     |  |  |  | 285 |     |  |  |  |  |  |  |  |  |  |
| Phe | Pro | Asp | Glu | Pro | Tyr | Lys | Asp | Gly | Tyr | Ile | Arg | Asn | Pro | His | Thr |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 290 |     |     |     |     | 295 |     |  |  |  | 300 |     |  |  |  |  |  |  |  |  |  |
| Tyr | Leu | Asn | Pro | Pro | Asn | Met | Glu | Thr | Gly | Met | Ile | Tyr | Val | Val | Gln |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
| 305 |     |     |     |     |     |     |     |     |     |     | 310 |     |     |     |     | 315 |  |  |  |     | 320 |  |  |  |  |  |  |  |  |  |
| Gly | Ile | Tyr | Gly | Tyr | His | His | Tyr | Met | Gln | Asp | Arg | Ile | Asp | Asp | Asn |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 325 |     |     |     |     | 330 |     |  |  |  | 335 |     |  |  |  |  |  |  |  |  |  |
| Gly | Trp | Gly | Cys | Ala | Tyr | Arg | Ser | Leu | Gln | Thr | Ile | Cys | Ser | Trp | Phe |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 340 |     |     |     |     | 345 |     |  |  |  | 350 |     |  |  |  |  |  |  |  |  |  |
| Lys | His | Gln | Gly | Tyr | Thr | Glu | Arg | Ser | Ile | Pro | Thr | His | Arg | Glu | Ile |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 355 |     |     |     |     | 360 |     |  |  |  | 365 |     |  |  |  |  |  |  |  |  |  |
| Gln | Gln | Ala | Leu | Val | Asp | Ala | Gly | Asp | Lys | Pro | Ala | Thr | Phe | Val | Gly |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 370 |     |     |     |     | 375 |     |  |  |  | 380 |     |  |  |  |  |  |  |  |  |  |
| Ser | Arg | Gln | Trp | Ile | Gly | Ser | Ile | Glu | Val | Gln | Leu | Val | Leu | Asn | Gln |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |
| 385 |     |     |     |     |     |     |     |     |     |     | 390 |     |     |     |     | 395 |  |  |  |     | 400 |  |  |  |  |  |  |  |  |  |
| Leu | Ile | Gly | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |

<210> 5403  
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5403

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&lt;210&gt; 5404

&lt;211&gt; 150

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5404

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Ser | Pro | Ser | Thr | Ala | Pro | Ala | Pro | Arg | Pro | Leu | Ala | Pro | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Cys | Ala | Arg | Pro | His | Ala | Leu | Val | Arg | Ala | Ala | Gly | Ser | Gly | Ser | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Pro | Ala | Leu | Thr | Met | Ala | Pro | Ser | Ser | Leu | Gly | Ala | Leu | Gly | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Trp | Val | Gly | Ala | Leu | Glu | Leu | Pro | Arg | Leu | Gln | Ala | Pro | Leu | Ser | Gln |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Pro | Gly | Thr | His | Ala | Gly | Ala | Xaa | Asp | Pro | Arg | Pro | Ser | Leu | Arg | Lys |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |
| Ala | Ser | Leu | Arg | Ala | Ala | Ser | Pro | Ala | Ala | Ser | Ser | Ser | Pro | Trp | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Val | Pro | Cys | Ser | Arg | Ala | Arg | Arg | Pro | Lys | Ser | Ala | Glu | Leu | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Ile | Pro | Gly | Thr | Ser | Thr | Arg | Pro | Lys | Lys | Glu | Arg | Gly | Cys | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser | Pro | Gly | Leu | Pro | Ala | Ala | Gly | Pro | Gly | Pro | Ser | Pro | Ala | Gly | Arg |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Gly | Pro | Gly | Pro | Gln | Ala |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5405

&lt;211&gt; 1609

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5405

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 <212> PRT  
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 Lys Tyr Cys Ser Ala Lys Ala Arg His Ser Trp Thr Lys Asp Arg Arg  
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 Ala Met Arg Val Met Ser Ile Glu Arg Lys Lys Trp Met Asn Ile Arg  
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 Ala His Ser Pro Glu Glu Arg Glu Val Trp Thr Tyr Met Lys Glu Asn  
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 210 215 220  
 Ser Ile Cys Asp Arg Tyr Met Asn Gly Thr Cys Pro Glu Gly Asn Ser  
 225 230 235 240  
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<211> 335

<212> PRT

<213> Homo sapiens

<400> 5408

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| Met | Ala | Ala | Arg | Trp | Arg | Phe | Trp | Cys | Val | Ser | Val | Thr | Met | Val | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Leu | Leu | Ile | Val | Cys | Asp | Val | Pro | Ser | Ala | Ser | Ala | Gln | Arg | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Glu | Met | Val | Leu | Ser | Glu | Lys | Val | Ser | Gln | Leu | Met | Glu | Trp | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Lys | Arg | Pro | Val | Ile | Arg | Met | Asn | Gly | Asp | Lys | Phe | Arg | Arg | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Lys | Ala | Pro | Pro | Arg | Asn | Tyr | Ser | Val | Ile | Val | Met | Phe | Thr | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Gln | Leu | His | Arg | Gln | Cys | Val | Val | Cys | Lys | Gln | Ala | Asp | Glu | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Phe | Gln | Ile | Leu | Ala | Asn | Ser | Trp | Arg | Tyr | Ser | Ser | Ala | Phe | Thr | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Ile | Phe | Phe | Ala | Met | Val | Asp | Phe | Asp | Glu | Gly | Ser | Asp | Val | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Met | Leu | Asn | Met | Asn | Ser | Ala | Pro | Thr | Phe | Ile | Asn | Phe | Pro | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Gly | Lys | Pro | Lys | Arg | Gly | Asp | Thr | Tyr | Glu | Leu | Gln | Val | Arg | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Phe | Ser | Ala | Glu | Gln | Ile | Ala | Arg | Trp | Ile | Ala | Asp | Arg | Thr | Asp | Val |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Asn | Ile | Arg | Val | Ile | Arg | Pro | Pro | Asn | Tyr | Ala | Gly | Pro | Leu | Met | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Leu | Leu | Leu | Ala | Val | Ile | Gly | Gly | Leu | Val | Tyr | Leu | Arg | Arg | Ser |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asn | Met | Glu | Phe | Leu | Phe | Asn | Lys | Thr | Gly | Trp | Ala | Phe | Ala | Ala | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Cys | Phe | Val | Leu | Ala | Met | Thr | Ser | Gly | Gln | Met | Trp | Asn | His | Ile | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Gly | Pro | Pro | Tyr | Ala | His | Lys | Asn | Pro | His | Thr | Gly | His | Val | Asn | Tyr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Ile | His | Gly | Ser | Ser | Gln | Ala | Gln | Phe | Val | Ala | Glu | Thr | His | Ile | Val |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Leu | Phe | Asn | Gly | Gly | Val | Thr | Leu | Gly | Met | Val | Leu | Leu | Cys | Glu |

|     |                     |                         |                     |  |     |  |
|-----|---------------------|-------------------------|---------------------|--|-----|--|
|     | 275                 |                         | 280                 |  | 285 |  |
| Ala | Ala Thr Ser Asp Met | Asp Ile Gly Lys Arg     | Lys Ile Met Cys Val |  |     |  |
|     | 290                 | 295                     | 300                 |  |     |  |
| Ala | Gly Ile Gly Leu Val | Val Leu Phe Phe Ser Trp | Met Leu Ser Ile     |  |     |  |
| 305 |                     | 310                     | 315                 |  | 320 |  |
| Phe | Arg Ser Lys Tyr His | Gly Tyr Pro Tyr Ser     | Phe Leu Met Ser     |  |     |  |
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&lt;210&gt; 5409

&lt;211&gt; 2019

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5409

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<210> 5410

<211> 198

<212> PRT

<213> Homo sapiens

<400> 5410

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| Met | Leu | Phe | Phe | Ile | Asn | Val | Gln | Thr | Lys | Lys | Asp | Thr | Ser | Lys | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Thr | Tyr | Ala | Phe | Leu | Val | Asn | Thr | Arg | His | Pro | Lys | Ile | Arg | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Ile | Glu | Gln | Gly | Met | Asp | Met | Val | Ile | Ser | Ser | Val | Ile | Gly | Glu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ser | Tyr | Arg | Leu | Gln | Ser | Met | Gln | Cys | Ser | Ser | Leu | Phe | Gln | Phe | Asp |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Phe | Gln | Glu | Ala | Val | Lys | Asn | Phe | Phe | Pro | Pro | Gly | Asn | Glu | Val | Val |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Asn | Gly | Glu | Asn | Leu | Ser | Phe | Ala | Tyr | Glu | Phe | Lys | Ala | Asp | Ala | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Phe | Asp | Phe | Phe | Tyr | Trp | Phe | Gly | Leu | Ser | Asn | Ser | Val | Val | Lys | Val |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Asn | Gly | Lys | Val | Leu | Asn | Leu | Ser | Ser | Thr | Ser | Pro | Glu | Lys | Lys | Glu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Thr | Ile | Lys | Leu | Phe | Leu | Glu | Lys | Met | Ser | Glu | Pro | Leu | Ile | Arg | Arg |
| 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Ser | Ser | Phe | Ser | Asp | Arg | Lys | Phe | Ser | Val | Thr | Ser | Arg | Gly | Ser | Ile |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Asp | Asp | Val | Phe | Asn | Cys | Asn | Leu | Ser | Pro | Arg | Ser | Ser | Leu | Thr | Glu |
|     |     | 165 |     | 170 |     | 175 |     |     |     |     |     |     |     |     |     |
| Pro | Leu | Leu | Ala | Glu | Leu | Pro | Phe | Pro | Ser | Val | Leu | Glu | Ser | Glu | Glu |
|     |     | 180 |     | 185 |     | 190 |     |     |     |     |     |     |     |     |     |
| Thr | Pro | Asn | Gln | Phe | Ile |     |     |     |     |     |     |     |     |     |     |
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&lt;210&gt; 5411

&lt;211&gt; 2802

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5411

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<400> 5412

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Asp Leu Cys Val Leu Phe Gly Lys Gly Asn Ser Pro Leu Leu Gln Lys
      50           55           60
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65           70           75           80
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Lys Asp Ile Val Leu Tyr Leu Cys Asp Thr Cys Thr Thr Leu Trp Ala
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Phe Leu Asp Ile Phe Pro Leu Ala Cys Gln Thr Phe Gln Lys His Asp
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      180          185          190
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 Pro Ser

&lt;210&gt; 5413

&lt;211&gt; 1677

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5413

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 180  
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 240  
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 atgtctgcct gtaacattag catccagggt ccagcatat ataataagga gcctaaaaat  
 360

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 1677

&lt;210&gt; 5414

&lt;211&gt; 426

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5414

Met Ser Ala Cys Asn Ile Ser Ile Gln Gly Pro Ser Ile Tyr Asn Lys  
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[illegible]

<210> 5415

<211> 1493

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5415

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180  
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1380  
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1493

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 <211> 55  
 <212> PRT  
 <213> Homo sapiens

<400> 5416  
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 Ala Cys Leu Lys Pro Leu Ser  
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<210> 5417  
 <211> 2087  
 <212> DNA  
 <213> Homo sapiens

<400> 5417  
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 240  
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 720  
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 780  
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 960

gaccagagga cttatgtttt ccgggcccag agcgcgtgaaa tgaaggaacg agggggcaac  
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 1920  
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 1980  
 ggcagcagcc ctgatggatg agggatcgtg gttcccggc ccagagacat gaggtgtcca  
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 2087

&lt;210&gt; 5418

&lt;211&gt; 528

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5418

Met Ala Ala Ile Asp Glu Glu Gly Gly Arg Glu Ile Gly Asp Glu Val  
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 Asn Ile Leu Val Lys Glu Gln Thr Gln Leu Gly Val Lys Thr Leu Met  
 20 25 30  
 Arg Leu Leu Lys Glu Pro Glu Lys Glu Arg Asp Ser Asp Ser Asp Phe  
 35 40 45  
 Ser Pro Leu Gln Gln Thr Glu Gly Cys Gln Arg Arg Asp Lys His Phe  
 50 55 60  
 Arg His Ala Glu Asn Pro His His Pro Leu Lys Thr Ser Ser Arg Ala

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |
| Ala | Pro | Leu | Glu | Lys | Pro | Ile | Val | Leu | Met | Lys | Pro | Arg | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |
| Lys | Gly | Pro | Val | Ala | Val | Thr | Gly | Ala | Ser | Thr | Pro | Glu | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |
| Pro | Pro | Pro | Pro | Ala | Ala | Pro | Ala | Pro | Pro | Lys | Gly | Glu | Lys |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |
| Gln | Arg | Pro | Thr | Gln | Pro | Val | Tyr | Gln | Ile | Gln | Asn | Arg | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |
| Thr | Ala | Ala | Pro | Ala | Ala | Met | Asp | Pro | Val | Val | Gly | Gln | Ala |
|     | 145 |     |     |     |     | 150 |     |     |     | 155 |     |     | 160 |
| Leu | Pro | Pro | Glu | Arg | Met | Lys | His | Ser | Ile | Lys | Leu | Val | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |
| Met | Asn | Trp | Cys | Asp | Ser | Ala | Ile | Glu | Tyr | Leu | Leu | Asp | Gln |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |
| Val | Leu | Val | Val | Gly | Val | Leu | Gly | Leu | Gln | Gly | Thr | Gly | Lys |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |
| Val | Met | Ser | Leu | Leu | Ser | Ala | Asn | Thr | Pro | Glu | Glu | Asp | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |
| Tyr | Val | Phe | Arg | Ala | Gln | Ser | Ala | Glu | Met | Lys | Glu | Arg | Gly |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     | 240 |
| Gln | Thr | Ser | Gly | Ile | Asp | Phe | Phe | Ile | Thr | Gln | Glu | Arg | Ile |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |
| Leu | Asp | Thr | Gln | Pro | Ile | Leu | Ser | Pro | Ser | Ile | Leu | Asp | His |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     | 270 |     |
| Asn | Asn | Asp | Arg | Lys | Leu | Pro | Pro | Glu | Tyr | Asn | Leu | Pro | His |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |
| Val | Glu | Met | Gln | Ser | Leu | Gln | Ile | Ala | Ala | Phe | Leu | Phe | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |
| His | Val | Val | Ile | Val | Val | Gln | Asp | Trp | Phe | Thr | Asp | Leu | Ser |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     | 320 |
| Arg | Leu | Trp | Asp | Leu | Gly | Cys | Lys | Cys | Lys | Ser | Asn | Ser | His |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |
| Gln | Thr | Pro | Arg | Phe | Leu | Gln | Thr | Ala | Glu | Met | Val | Lys | Pro |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     | 350 |     |
| Pro | Ser | Pro | Ser | His | Glu | Ser | Ser | Ser | Ser | Ser | Gly | Ser | Asp |
|     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |
| Thr | Glu | Tyr | Tyr | Pro | His | Leu | Val | Phe | Leu | Gln | Asn | Lys | Ala |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |
| Glu | Asp | Phe | Cys | Pro | Arg | Lys | Leu | Arg | Gln | Met | His | Leu | Met |
|     | 385 |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |
| Gln | Leu | Met | Ala | His | Ser | His | Leu | Arg | Tyr | Lys | Gly | Thr | Leu |
|     |     | 405 |     |     |     |     |     | 410 |     |     |     | 415 |     |
| Leu | Gln | Cys | Asn | Val | Phe | Pro | Gly | Leu | Pro | Pro | Asp | Phe | Leu |
|     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |
| Glu | Val | Asn | Leu | Phe | Leu | Val | Pro | Phe | Met | Asp | Ser | Glu | Ala |
|     | 435 |     |     |     |     | 440 |     |     |     | 445 |     |     |     |
| Glu | Asn | Pro | Pro | Arg | Ala | Gly | Pro | Gly | Ser | Ser | Pro | Leu | Phe |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |
| Leu | Pro | Gly | Tyr | Arg | Gly | His | Pro | Ser | Phe | Gln | Ser | Leu | Val |
|     | 465 |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |
| Leu | Arg | Ser | Gln | Val | Met | Ser | Met | Ala | Arg | Pro | Gln | Leu | Ser |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     | 495 |     |
| Ile | Leu | Thr | Glu | Lys | Asn | Trp | Phe | His | Tyr | Ala | Ala | Arg | Ile |

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 500 |     | 505 |     | 510 |
| Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr Ser Arg Leu Leu Ala |     |     |     |     |     |
| 515   |     | 520 |     | 525 |     |

<210> 5419  
 <211> 989  
 <212> DNA  
 <213> Homo sapiens

<400> 5419  
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 420  
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 aacactcaaa tattaacatt ttaggtttct cttgcagata tgagagatag cacagatgga  
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 989

<210> 5420  
 <211> 174  
 <212> PRT  
 <213> Homo sapiens

<400> 5420  
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 35 40 45  
 Thr Arg Arg Tyr Tyr Arg Ser Pro Ser Arg Tyr Arg Ser Arg Ser Arg  
 50 55 60  
 Ser Arg Ser Arg Ser Arg Gly Arg Ser Tyr Cys Gly Arg Ala Tyr Ala  
 65 70 75 80  
 Ile Ala Arg Gly Gln Arg Tyr Tyr Gly Phe Gly Arg Thr Val Tyr Pro  
 85 90 95  
 Glu Glu His Ser Arg Trp Arg Asp Arg Ser Arg Thr Arg Ser Arg Ser  
 100 105 110  
 Arg Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met Glu Leu Leu Glu  
 115 120 125  
 Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr Thr Asn Ile Asp  
 130 135 140  
 Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys Glu Thr Ser Arg  
 145 150 155 160  
 Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu Lys Ser  
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&lt;210&gt; 5421

&lt;211&gt; 1239

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5421

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 120  
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 780  
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 840

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 1080  
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 aacctctttg ttcttgttg ccgagttttc tttatggagt acttctttcc cccgcctttc  
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 1239

<210> 5422

<211> 276

<212> PRT

<213> Homo sapiens

<400> 5422

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Val | Thr | Val | Thr | Arg | Thr | Thr | Ile | Thr | Thr | Thr | Thr | Thr | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ser | Gly | Leu | Gly | Ser | Pro | Met | Ile | Val | Gly | Ser | Pro | Arg | Ala | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Gln | Pro | Leu | Gly | Leu | Leu | Arg | Leu | Leu | Gln | Leu | Val | Ser | Thr | Cys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Ala | Phe | Ser | Leu | Val | Ala | Ser | Val | Gly | Ala | Trp | Thr | Gly | Ser | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Asn | Trp | Ser | Met | Phe | Thr | Trp | Cys | Phe | Cys | Phe | Ser | Val | Thr | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Ile | Leu | Ile | Val | Glu | Leu | Cys | Gly | Leu | Gln | Ala | Arg | Phe | Pro | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Trp | Arg | Asn | Phe | Pro | Ile | Thr | Phe | Ala | Cys | Tyr | Ala | Ala | Leu | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Leu | Ser | Ala | Ser | Ile | Ile | Tyr | Pro | Thr | Thr | Tyr | Val | Gln | Phe | Leu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | His | Gly | Arg | Ser | Arg | Asp | His | Ala | Ile | Ala | Ala | Thr | Phe | Phe | Ser |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Ile | Ala | Cys | Val | Ala | Tyr | Ala | Thr | Glu | Val | Ala | Trp | Thr | Arg | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Pro | Gly | Glu | Ile | Thr | Gly | Tyr | Met | Ala | Thr | Val | Pro | Gly | Leu | Leu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Val | Leu | Glu | Thr | Phe | Val | Ala | Cys | Ile | Ile | Phe | Ala | Phe | Ile | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Pro | Asn | Leu | Tyr | Gln | His | Gln | Pro | Ala | Leu | Glu | Trp | Cys | Val | Ala |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Tyr | Ala | Ile | Cys | Phe | Ile | Leu | Ala | Ala | Ile | Ala | Ile | Leu | Leu | Asn |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Gly | Glu | Cys | Thr | Asn | Val | Leu | Pro | Ile | Pro | Phe | Pro | Ser | Phe | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Gly | Leu | Ala | Leu | Cys | Leu | Ser | Ser | Ser | Met | Pro | Pro | Pro | Leu | Phe |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Gly | Pro | Ser | Thr | Ser | Ser | Met | Arg | Ser | Met | Ala | Ala | Ser | Leu | Gly |

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Ala Arg Glu Met  
275

265

270

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<211> 2427  
<212> DNA  
<213> Homo sapiens

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120  
cctgagttat tctccccacc tcagaagtac cagcttttgg tgtatcatgc agattctctc  
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900  
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960  
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1020  
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1080  
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1140  
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1200  
gtaatggcta acaacgttta caaaactctg ggagcaaagt cacagaccct taccctttta  
1260  
gccaccgttt gtcttgaaga cccagtgaca caggagaaag ccaaaacatt attagataaa  
1320

gccctgaccc aaaggccaga ttacattaag gctgtggtga aaaaagcaga actacttagc  
 1380  
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 1440  
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 1680  
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 1740  
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 1980  
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 2160  
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 2280  
 aacttgccctc tgagcctggg ctgatctgag aaacaggtgt gacaagagca tgaaccagag  
 2340  
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 2427

<210> 5424

<211> 570

<212> PRT

<213> Homo sapiens

<400> 5424

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Ala | Gly | Leu | His | Ser | Asn | Val | Arg | Leu | Leu | Ser | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Leu | Thr | Met | Ser | Asn | Asn | Asn | Pro | Glu | Leu | Phe | Ser | Pro | Pro | Gln |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Tyr | Gln | Leu | Leu | Val | Tyr | His | Ala | Asp | Ser | Leu | Phe | His | Asp | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Tyr | Arg | Asn | Ala | Val | Ser | Lys | Tyr | Thr | Met | Ala | Leu | Gln | Gln | Lys |
|     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Lys | Ala | Leu | Ser | Lys | Thr | Ser | Lys | Val | Arg | Pro | Ser | Thr | Gly | Asn | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80      |
| Ala | Ser | Thr | Pro | Gln | Ser | Gln | Cys | Leu | Pro | Ser | Glu | Ile | Glu | Val Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95      |
| Tyr | Lys | Met | Ala | Glu | Cys | Tyr | Thr | Met | Leu | Lys | Gln | Asp | Lys | Asp Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |         |
| Ile | Ala | Ile | Leu | Asp | Gly | Ile | Pro | Ser | Arg | Gln | Arg | Thr | Pro | Lys Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |         |
| Asn | Met | Met | Leu | Ala | Asn | Leu | Tyr | Lys | Lys | Ala | Gly | Gln | Glu | Arg Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |         |
| Ser | Val | Thr | Ser | Tyr | Lys | Glu | Val | Leu | Arg | Gln | Cys | Pro | Leu | Ala Leu |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160     |
| Asp | Ala | Ile | Leu | Gly | Leu | Leu | Ser | Leu | Ser | Val | Lys | Gly | Ala | Glu Val |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175     |
| Ala | Ser | Met | Thr | Met | Asn | Val | Ile | Gln | Thr | Val | Pro | Asn | Leu | Asp Trp |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |         |
| Leu | Ser | Val | Trp | Ile | Lys | Ala | Tyr | Ala | Phe | Val | His | Thr | Gly | Asp Asn |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |         |
| Ser | Arg | Ala | Ile | Ser | Thr | Ile | Cys | Ser | Leu | Glu | Lys | Lys | Ser | Leu Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |         |
| Arg | Asp | Asn | Val | Asp | Leu | Leu | Gly | Ser | Leu | Ala | Asp | Leu | Tyr | Phe Arg |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240     |
| Ala | Gly | Asp | Asn | Lys | Asn | Ser | Val | Leu | Lys | Phe | Glu | Gln | Ala | Gln Met |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255     |
| Leu | Asp | Pro | Tyr | Leu | Ile | Lys | Gly | Met | Asp | Val | Tyr | Gly | Tyr | Leu Leu |
|     | 260 |     |     |     |     |     |     | 265 |     |     |     |     | 270 |         |
| Ala | Arg | Glu | Gly | Arg | Leu | Glu | Asp | Val | Glu | Asn | Leu | Gly | Cys | Arg Leu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |         |
| Phe | Asn | Ile | Ser | Asp | Gln | His | Ala | Glu | Pro | Trp | Val | Val | Ser | Gly Cys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |         |
| His | Ser | Phe | Tyr | Ser | Lys | Arg | Tyr | Ser | Arg | Ala | Leu | Tyr | Leu | Gly Ala |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320     |
| Lys | Ala | Ile | Gln | Leu | Asn | Ser | Asn | Ser | Val | Gln | Ala | Leu | Leu | Leu Lys |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335     |
| Gly | Ala | Ala | Leu | Arg | Asn | Met | Gly | Arg | Val | Gln | Glu | Ala | Ile | Ile His |
|     | 340 |     |     |     |     |     |     | 345 |     |     |     |     | 350 |         |
| Phe | Arg | Glu | Ala | Ile | Arg | Leu | Ala | Pro | Cys | Arg | Leu | Asp | Cys | Tyr Glu |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |         |
| Gly | Leu | Ile | Glu | Cys | Tyr | Leu | Ala | Ser | Asn | Ser | Ile | Arg | Glu | Ala Met |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |         |
| Val | Met | Ala | Asn | Asn | Val | Tyr | Lys | Thr | Leu | Gly | Ala | Asn | Ala | Gln Thr |
|     | 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400     |
| Leu | Thr | Leu | Leu | Ala | Thr | Val | Cys | Leu | Glu | Asp | Pro | Val | Thr | Gln Glu |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415     |
| Lys | Ala | Lys | Thr | Leu | Leu | Asp | Lys | Ala | Leu | Thr | Gln | Arg | Pro | Asp Tyr |
|     | 420 |     |     |     |     |     |     | 425 |     |     |     | 430 |     |         |
| Ile | Lys | Ala | Val | Val | Lys | Lys | Ala | Glu | Leu | Leu | Ser | Arg | Glu | Gln Lys |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |         |
| Tyr | Glu | Asp | Gly | Ile | Ala | Leu | Leu | Arg | Asn | Ala | Leu | Ala | Asn | Gln Ser |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |         |
| Asp | Cys | Val | Leu | His | Arg | Ile | Leu | Gly | Asp | Phe | Leu | Val | Ala | Val Asn |
|     | 465 |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480     |
| Glu | Tyr | Gln | Glu | Ala | Met | Asp | Gln | Tyr | Ser | Ile | Ala | Leu | Ser | Leu Asp |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495     |
| Pro | Asn | Asp | Gln | Lys | Ser | Leu | Glu | Gly | Met | Gln | Lys | Met | Glu | Lys Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 500 |     |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |  |
| Glu | Ser | Pro | Thr | Asp | Ala | Thr | Gln | Glu | Glu | Asp | Val | Asp | Asp | Met | Glu |  |
| 515 |     |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Gly | Ser | Gly | Glu | Glu | Gly | Asp | Leu | Glu | Gly | Ser | Asp | Ser | Glu | Ala | Ala |  |
| 530 |     |     |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |  |
| Gln | Trp | Ala | Asp | Gln | Glu | Gln | Trp | Phe | Gly | Met | Ser | Glu | Gly | Ala | Ala |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Ala | Pro | Trp | Pro | Gln | Trp | Pro | Ala | Leu | Leu |     |     |     |     |     |     |  |
| 565 |     |     |     |     |     |     | 570 |     |     |     |     |     |     |     |     |  |

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<212> DNA
<213> Homo sapiens
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120
ttctcttccc acccgccctc tcccagggtgg gagacattgt ctcggtgatc gacatgccac
180
ccacagaagg tgggagctgg tggcggggca agcgaggctt ccaggtcggg ttcttcccca
240
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300
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360
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420
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480
acctcagcaa ctcaggccag gatgtgcccc gtgctgcgct gctgctccga gttcattgag
540
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600
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639

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<210> 5426
<211> 98
<212> PRT
<213> Homo sapiens
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<400> 5426
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Pro Ser Cys Ala Pro Ala Leu Leu Gly Ser Gly Cys Gly Ser Gly Glu
      20             25             30
Ser Cys Asp Arg Gly Cys Leu Ala Ala Ile Leu Ala Ser Thr Ser Ala
      35             40             45
Thr Gln Ala Arg Met Cys Pro Val Leu Arg Cys Cys Ser Glu Phe Ile
      50             55             60
Glu Ala Xaa Gly Val Val Asp Gly Ile Tyr Arg Leu Ser Gly Val Ser

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```

65          70          75          80
Ser Asn Ile Gln Arg Leu Arg His Glu Phe Asp Ser Glu Arg Ile Pro
          85          90          95
Glu Leu

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<210> 5427
<211> 366
<212> DNA
<213> Homo sapiens
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acaaacaaat caaaaattct tgttgagtac ctgctacatg ctaagtgtct ctctaggtgc
120
tgaggataca tcagagggca aaatggatac agatactctg aaaaaacgtg cattctagct
180
gggattgggt cctccacact gtgtccaaaa ggtatgttgg ggttgctgaa gtagataaac
240
tggtattggc agcaggaaca gcatttatgg aacagagggg aagacacatt caaggaatga
300
aacatcgtct ggctggatca tgaaatgcaa ggcagatatg gcacaggagg cagacaaagg
360
gttgaa
366

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<210> 5428
<211> 101
<212> PRT
<213> Homo sapiens
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<400> 5428
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Ser Cys Cys Gln Tyr Gln Phe Ile Tyr Phe Ser Asn Pro Asn Ile Pro
          20          25          30
Phe Gly His Ser Val Glu Asp Pro Ile Pro Ala Arg Met His Val Phe
          35          40          45
Ser Glu Tyr Leu Tyr Pro Phe Cys Pro Leu Met Tyr Pro Gln His Leu
          50          55          60
Glu Glu His Leu Ala Cys Ser Arg Tyr Ser Thr Arg Ile Phe Asp Leu
65          70          75          80
Phe Val Gly Leu Phe Met Thr Glu Ser Cys Ser Val Ala Gln Thr Gly
          85          90          95
Val Gln Tyr Ser Asp
          100

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<210> 5429
<211> 612
<212> DNA
<213> Homo sapiens
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<400> 5429

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 cgcgcgagg gtccacgcgc gggcgagaag ggggtccacg aggaggagggt gagagtccct  
 120  
 gcgctgagct gggggaggcc cggggctccc gcccagcct cgaagccccg cccaggctg  
 180  
 gatttgaatt gcttgtggct cgcgccacag cccattttcc tctggaagct gagacccgc  
 240  
 cccgtgccag ctgccacgcc cctgacaggt cctctgccac tctaagtcca ggccccgccc  
 300  
 accgcacaat gccagctctg cccactctaa ggtcccgcgc acttccactc cttgggggcg  
 360  
 gcaccctccc cttggtcctg tgggcccgtt ctccagcaga aaaccacgcc caccaagcag  
 420  
 aggccacgcc cacaaccgaa gtcaacgcca accctgtact caaacctcgg cccatagtgc  
 480  
 ctcagatccc ctcaccctg gccagggatc cctctaacc accgtgtccc gactgctgac  
 540  
 cgggccctac ctccatcttt tccgggttct tcctcccagc taggccccgc ccccatcccc  
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 gcccatacgc gt  
 612

<210> 5430

<211> 94

<212> PRT

<213> Homo sapiens

<400> 5430

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Gly | Gly | Lys | Ala | Pro | Gly | Gln | His | Gly | Gly | Phe | Val | Val | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Val | Lys | Gln | Glu | Arg | Gly | Glu | Gly | Pro | Arg | Ala | Gly | Glu | Lys | Gly | Ser |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| His | Glu | Glu | Glu | Val | Arg | Val | Pro | Ala | Leu | Ser | Trp | Gly | Arg | Pro | Arg |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala | Pro | Ala | Pro | Ala | Ser | Lys | Pro | Arg | Pro | Arg | Leu | Asp | Leu | Asn | Cys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Trp | Leu | Arg | Pro | Gln | Pro | Ile | Phe | Leu | Trp | Lys | Leu | Arg | Pro | Arg |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |     |
| Pro | Val | Pro | Ala | Ala | Thr | Pro | Leu | Thr | Gly | Pro | Leu | Pro | Leu |     |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     |     |

<210> 5431

<211> 3005

<212> DNA

<213> Homo sapiens

<400> 5431

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 aggcacctgg ccgcgatggc gagacacagt gccaacacca gcatgcatgc ccgcaacctg  
 120  
 gccattgtct gggcacccaa cctgctacgg tccatggagc tggagtcagt gggaatgggt  
 180

ggcgcgggcgg cgttccggga agttcgggtg cagtcgggtg tggaggagtt tctgctcacc  
240  
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&lt;210&gt; 5432

&lt;211&gt; 863

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5432

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | His | Asp | Val | Ile | Gln | Gln | Leu | Pro | Pro | Pro | His | Tyr | Arg | Thr | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Glu | Tyr | Leu | Leu | Arg | His | Leu | Ala | Arg | Met | Ala | Arg | His | Ser | Ala | Asn |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Ser | Met | His | Ala | Arg | Asn | Leu | Ala | Ile | Val | Trp | Ala | Pro | Asn | Leu |

4614

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 Tyr Ser Gly Pro Thr Arg Ser Trp Ser Pro Phe Arg Ser Met Pro Pro  
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 Arg Gly Pro Ser Pro Ala Ser Ser Ser Ser Ser Ser Pro Pro Ala His  
 755 760 765  
 Pro Arg Ser Arg Ser Asp Pro Gly Pro Pro Val Pro Arg Leu Pro Gln  
 770 775 780  
 Lys Gln Arg Ala Pro Trp Gly Pro Arg Thr Pro His Arg Val Pro Gly  
 785 790 795 800  
 Pro Trp Gly Pro Pro Glu Pro Leu Leu Leu Tyr Arg Ala Ala Pro Pro  
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 820 825 830  
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 Pro Ser Trp Ser Leu His Ser Glu Gly Gln Thr Arg Ser Tyr Cys  
 850 855 860

&lt;210&gt; 5433

&lt;211&gt; 385

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5433

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&lt;210&gt; 5434

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5434

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Thr | Asn | Leu | His | Tyr | Ser | Thr | Pro | Leu | Pro | Ala | Ser | Leu | Asp |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Thr | Asp | His | His | Phe | Gly | Ser | Met | Ser | Val | Gly | Asn | Ser | Val | Asn |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Ile | Pro | Ala | Ala | Met | Thr | His | Leu | Gly | Ile | Arg | Ser | Ser | Ser | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Gln | Ser | Ser | Arg | Ser | Asn | Pro | Ser | Ile | Gln | Ala | Thr | Leu | Asn | Lys |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Thr | Val | Leu | Ser | Ser | Ser | Leu | Asn | Asn | His | Pro | Gln | Thr | Ser | Val | Pro |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Asn | Ala | Ser | Ala | Leu | His | Pro | Ser | Leu | Arg | Leu | Phe | Ser | Leu | Ser | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Ser | Leu | Ser | Thr | Thr | Asn | Leu | Ser | Gly | Pro | Ser | Arg | Arg | Arg | Gln |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Pro | Pro | Val | Ser | Pro | Leu | Thr | Leu | Ser | Pro | Gly | Pro | Glu | Ala | His | Gln |
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&lt;210&gt; 5435

&lt;211&gt; 617

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5435

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 50 55 60  
 Leu Leu Val Arg Lys Leu Leu Ala Leu Cys Lys Glu Lys Glu Asp Cys  
 65 70 75 80  
 Asn Arg Asn His Glu Pro Gly Arg Glu Met Gly Leu Glu Lys Gly Glu  
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 Tyr Tyr Ser Thr Ile Val Met  
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 <212> DNA  
 <213> Homo sapiens

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&lt;210&gt; 5438

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5438

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 Leu Gln Val Val Arg Glu Gly Lys Phe Ser Gly Phe Leu Thr Ser Cys  
 35 40 45  
 Ser Leu Leu Leu Pro Arg Ala Ala Gln Ile Leu Ala Ala Glu Ala Gly  
 50 55 60  
 Leu Pro Ser Ser Arg Ser Phe Met Gly Phe Ala Ala Pro Phe Thr Asn

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Glu Met Tyr Glu Val Val Ser Asn Val Gln Glu Tyr Arg Glu Phe Val
      100          105          110
Pro Trp Cys Lys Lys Ser Leu Val Val Ser Ser Arg Lys Gly His Leu
      115          120          125
Lys Ala Gln Leu Glu Val Gly Phe Pro Pro Val Met Glu Arg Tyr Thr
      130          135          140
Ser Ala Val Ser Met Val Lys Pro His Met Val Lys Ala Val Cys Thr
145          150          155          160
Asp Gly Lys Leu Phe Asn His Leu Glu Thr Ile Trp Arg Phe Ser Pro
      165          170          175
Gly Ile Pro Ala Tyr Pro Arg Thr Cys Thr Val Asp Phe Ser Ile Ser
      180          185          190
Phe Glu Phe Arg Ser Leu Leu His Ser Gln Leu Ala Thr Met Phe Phe
      195          200          205
Asp Glu Val Val Lys Gln Asn Val Ala Ala Phe Glu Arg Arg Ala Ala
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Thr Lys Phe Gly Pro Glu Thr Ala Ile Pro Arg Glu Leu Met Phe His
225          230          235          240
Glu Val His Gln Thr
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&lt;210&gt; 5439

&lt;211&gt; 4234

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5439

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<210> 5440

<211> 461

<212> PRT

<213> Homo sapiens

<400> 5440

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ala | Val | Gln | Val | Lys | Gln | His | Ile | Asp | Ala | Val | Ala | Arg | Phe | Thr | 1   | 5   | 10  | 15  |
| Gly | Ile | Lys | Thr | Ala | Ile | Leu | Val | Gly | Gly | Met | Ser | Thr | Gln | Lys | Gln | 20  | 25  | 30  |     |
| Gln | Arg | Met | Leu | Asn | Arg | Arg | Pro | Glu | Ile | Val | Val | Ala | Thr | Pro | Gly | 35  | 40  | 45  |     |
| Arg | Leu | Trp | Glu | Leu | Ile | Lys | Glu | Lys | His | Tyr | His | Leu | Arg | Asn | Leu | 50  | 55  | 60  |     |
| Arg | Gln | Leu | Arg | Cys | Leu | Val | Val | Asp | Glu | Ala | Asp | Arg | Met | Val | Glu | 65  | 70  | 75  | 80  |
| Lys | Gly | His | Phe | Ala | Glu | Leu | Ser | Gln | Leu | Leu | Glu | Met | Leu | Asn | Asp | 85  | 90  | 95  |     |
| Ser | Gln | Tyr | Asn | Pro | Lys | Arg | Gln | Thr | Leu | Val | Phe | Ser | Ala | Thr | Leu | 100 | 105 | 110 |     |
| Thr | Leu | Val | His | Gln | Ala | Pro | Ala | Arg | Ile | Leu | His | Lys | Lys | His | Thr | 115 | 120 | 125 |     |
| Lys | Lys | Met | Asp | Lys | Thr | Ala | Lys | Leu | Asp | Leu | Leu | Met | Gln | Lys | Ile | 130 | 135 | 140 |     |
| Gly | Met | Arg | Gly | Lys | Pro | Lys | Val | Ile | Asp | Leu | Thr | Arg | Asn | Glu | Ala | 145 | 150 | 155 | 160 |
| Thr | Val | Glu | Thr | Leu | Thr | Glu | Thr | Lys | Ile | His | Cys | Glu | Thr | Asp | Glu | 165 | 170 | 175 |     |
| Lys | Asp | Phe | Tyr | Leu | Tyr | Tyr | Phe | Leu | Met | Gln | Tyr | Pro | Gly | Arg | Ser | 180 | 185 | 190 |     |
| Leu | Val | Phe | Ala | Asn | Ser | Ile | Ser | Cys | Ile | Lys | Arg | Leu | Ser | Gly | Leu | 195 | 200 | 205 |     |
| Leu | Lys | Val | Leu | Asp | Ile | Met | Pro | Leu | Thr | Leu | His | Ala | Cys | Met | His | 210 | 215 | 220 |     |
| Gln | Lys | Gln | Arg | Leu | Arg | Asn | Leu | Glu | Gln | Phe | Ala | Arg | Leu | Glu | Asp | 225 | 230 | 235 | 240 |
| Cys | Val | Leu | Leu | Ala | Thr | Asp | Val | Ala | Ala | Arg | Gly | Leu | Asp | Ile | Pro | 245 | 250 | 255 |     |
| Lys | Val | Gln | His | Val | Ile | His | Tyr | Gln | Val | Pro | Arg | Thr | Ser | Glu | Ile | 260 | 265 | 270 |     |
| Tyr | Val | His | Arg | Ser | Gly | Arg | Thr | Ala | Arg | Ala | Thr | Asn | Glu | Gly | Leu | 275 | 280 | 285 |     |
| Ser | Leu | Met | Leu | Ile | Gly | Pro | Glu | Asp | Val | Ile | Asn | Phe | Lys | Lys | Ile |     |     |     |     |

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      290              295              300
Tyr Lys Thr Leu Lys Lys Asp Glu Asp Ile Pro Leu Phe Pro Val Gln
305              310              315              320
Thr Lys Tyr Met Asp Val Val Lys Glu Arg Ile Arg Leu Ala Arg Gln
      325              330              335
Ile Glu Lys Ser Glu Tyr Arg Asn Phe Gln Ala Cys Leu His Asn Ser
      340              345              350
Trp Ile Glu Gln Ala Ala Ala Ala Leu Glu Ile Glu Leu Glu Glu Asp
      355              360              365
Met Tyr Lys Gly Gly Lys Ala Asp Gln Gln Glu Glu Arg Arg Arg Gln
      370              375              380
Lys Gln Met Lys Val Leu Lys Lys Glu Leu Arg His Leu Leu Ser Gln
385              390              395              400
Pro Leu Phe Thr Glu Ser Gln Lys Thr Lys Tyr Pro Thr Gln Ser Gly
      405              410              415
Lys Pro Pro Leu Leu Val Ser Ala Pro Ser Lys Ser Glu Ser Ala Leu
      420              425              430
Ser Cys Leu Ser Lys Gln Lys Lys Lys Lys Thr Lys Lys Pro Lys Glu
      435              440              445
Pro Gln Pro Glu Gln Pro Gln Pro Ser Thr Ser Ala Asn
      450              455              460

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&lt;210&gt; 5441

&lt;211&gt; 1635

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5441

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 1635

&lt;210&gt; 5442

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5442

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ile | Phe | Thr | Pro | Thr | Asn | Gln | Ile | Arg | Leu | Thr | Asn | Val | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Val | Arg | Met | Lys | Arg | Ala | Gly | Lys | Arg | Phe | Glu | Ile | Ala | Cys | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Asn | Lys | Val | Val | Gly | Trp | Arg | Ser | Gly | Val | Glu | Lys | Asp | Leu | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Glu | Val | Leu | Gln | Thr | His | Ser | Val | Phe | Val | Asn | Val | Ser | Lys | Gly | Gln |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Ala | Lys | Lys | Glu | Asp | Leu | Ile | Ser | Ala | Phe | Gly | Thr | Asp | Asp | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Glu | Ile | Cys | Lys | Gln | Ile | Leu | Thr | Lys | Gly | Glu | Val | Gln | Val | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asp | Lys | Glu | Arg | His | Thr | Gln | Leu | Glu | Gln | Met | Phe | Arg | Asp | Ile | Ala |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Thr | Ile | Val | Ala | Asp | Lys | Cys | Val | Asn | Pro | Glu | Thr | Lys | Arg | Pro | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Val | Ile | Leu | Ile | Glu | Arg | Ala | Met | Lys | Asp | Ile | His | Tyr | Ser | Val |

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Lys Thr Asn Lys Ser Thr Lys Gln Gln Ala Leu Glu Val Ile Lys Gln |     |     |
| 145   | 150 | 155 |
| Leu Lys Glu Lys Met Lys Ile Glu Arg Ala His Met Arg Leu Arg Phe |     | 160 |
|   | 165 | 170 |
| Ile Leu Pro Val Asn Glu Gly Lys Lys Leu Lys Glu Lys Leu Lys Pro |     | 175 |
|   | 180 | 185 |
| Leu Ile Lys Val Ile Glu Ser Glu Asp Tyr Gly Gln Gln Leu Glu Ile |     | 190 |
|   | 195 | 200 |
| Val Cys Leu Ile Asp Pro Gly Cys Phe Arg Glu Ile Asp Glu Leu Ile |     | 205 |
|   | 210 | 215 |
| Lys Lys Glu Thr Lys Gly Lys Gly Ser Leu Glu Val Leu Asn Leu Lys |     | 220 |
| 225   | 230 | 235 |
| Asp Val Glu Glu Gly Asp Glu Lys Phe Glu                         |     | 240 |
|   | 245 | 250 |

&lt;210&gt; 5443

&lt;211&gt; 2021

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5443

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 2021

&lt;210&gt; 5444

&lt;211&gt; 438

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5444

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Glu | Glu | Val | Pro | Leu | Glu | Val | Leu | Arg | Gln | Arg | Glu | Ser | Lys | Trp |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Asp | Met | Leu | Asn | Asn | Trp | Asp | Lys | Trp | Met | Ala | Lys | Lys | His | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Ile | Arg | Leu | Arg | Cys | Gln | Lys | Gly | Ile | Pro | Pro | Ser | Leu | Arg | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ala | Trp | Gln | Tyr | Leu | Ser | Gly | Gly | Lys | Val | Lys | Leu | Gln | Gln | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Gly | Lys | Phe | Asp | Glu | Leu | Asp | Met | Ser | Pro | Gly | Asp | Pro | Lys | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Asp | Val | Ile | Glu | Arg | Asp | Leu | His | Arg | Gln | Phe | Pro | Phe | His | Glu |

| 85  |     |     |     |     |     |     |     |     |     | 90  |     |     |     | 95  |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Phe | Val | Ser | Arg | Gly | Gly | His | Gly | Gln | Gln | Asp | Leu | Phe | Arg | Val |  |  |
| 100 |     |     |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Leu | Lys | Ala | Tyr | Thr | Leu | Tyr | Arg | Pro | Glu | Glu | Gly | Tyr | Cys | Gln | Ala |  |  |
| 115 |     |     |     | 120 |     |     |     | 125 |     |     |     |     |     |     |     |  |  |
| Gln | Ala | Pro | Ile | Ala | Ala | Val | Leu | Leu | Met | His | Met | Pro | Ala | Glu | Gln |  |  |
| 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |     |  |  |
| Ala | Phe | Trp | Cys | Leu | Val | Gln | Ile | Cys | Glu | Lys | Tyr | Leu | Pro | Gly | Tyr |  |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |     |     |  |  |
| Tyr | Ser | Glu | Lys | Leu | Glu | Ala | Ile | Gln | Leu | Asp | Gly | Glu | Ile | Leu | Phe |  |  |
| 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |     |     |     |     |  |  |
| Ser | Leu | Leu | Gln | Lys | Val | Ser | Pro | Val | Ala | His | Lys | His | Leu | Ser | Arg |  |  |
| 180 |     |     |     | 185 |     |     |     | 190 |     |     |     |     |     |     |     |  |  |
| Gln | Lys | Ile | Asp | Pro | Leu | Leu | Tyr | Met | Thr | Glu | Trp | Phe | Met | Cys | Ala |  |  |
| 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |     |     |     |     |  |  |
| Phe | Ser | Arg | Thr | Leu | Pro | Trp | Ser | Ser | Val | Leu | Arg | Val | Trp | Asp | Met |  |  |
| 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |     |     |  |  |
| Phe | Phe | Cys | Glu | Gly | Val | Lys | Ile | Ile | Phe | Arg | Val | Gly | Leu | Val | Leu |  |  |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     | 240 |     |     |     |  |  |
| Leu | Lys | His | Ala | Leu | Gly | Ser | Pro | Glu | Lys | Val | Lys | Ala | Cys | Gln | Gly |  |  |
| 245 |     |     |     | 250 |     |     |     | 255 |     |     |     |     |     |     |     |  |  |
| Gln | Tyr | Glu | Thr | Ile | Glu | Arg | Leu | Arg | Ser | Leu | Ser | Pro | Lys | Ile | Met |  |  |
| 260 |     |     |     | 265 |     |     |     | 270 |     |     |     |     |     |     |     |  |  |
| Gln | Glu | Ala | Phe | Leu | Val | Gln | Glu | Val | Val | Glu | Leu | Pro | Val | Thr | Glu |  |  |
| 275 |     |     |     | 280 |     |     |     | 285 |     |     |     |     |     |     |     |  |  |
| Arg | Gln | Ile | Glu | Arg | Glu | His | Leu | Ile | Gln | Leu | Arg | Arg | Trp | Gln | Glu |  |  |
| 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |     |     |  |  |
| Thr | Arg | Gly | Glu | Leu | Gln | Cys | Arg | Ser | Pro | Pro | Arg | Leu | His | Gly | Ala |  |  |
| 305 |     |     |     | 310 |     |     |     | 315 |     |     |     | 320 |     |     |     |  |  |
| Lys | Ala | Ile | Leu | Asp | Ala | Glu | Pro | Gly | Pro | Arg | Pro | Ala | Leu | Gln | Pro |  |  |
| 325 |     |     |     | 330 |     |     |     | 335 |     |     |     |     |     |     |     |  |  |
| Ser | Pro | Ser | Ile | Arg | Leu | Pro | Leu | Asp | Ala | Pro | Leu | Pro | Gly | Ser | Lys |  |  |
| 340 |     |     |     | 345 |     |     |     | 350 |     |     |     |     |     |     |     |  |  |
| Ala | Lys | Pro | Lys | Pro | Pro | Lys | Gln | Ala | Gln | Lys | Glu | Gln | Arg | Lys | Gln |  |  |
| 355 |     |     |     | 360 |     |     |     | 365 |     |     |     |     |     |     |     |  |  |
| Met | Lys | Gly | Arg | Gly | Gln | Leu | Glu | Lys | Pro | Pro | Ala | Pro | Asn | Gln | Ala |  |  |
| 370 |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |     |     |  |  |
| Met | Val | Val | Ala | Ala | Ala | Gly | Asp | Ala | Cys | Pro | Pro | Gln | His | Val | Pro |  |  |
| 385 |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |     |     |     |  |  |
| Pro | Lys | Asp | Ser | Ala | Pro | Lys | Asp | Ser | Ala | Pro | Gln | Asp | Leu | Ala | Pro |  |  |
| 405 |     |     |     | 410 |     |     |     | 415 |     |     |     |     |     |     |     |  |  |
| Gln | Val | Ser | Ala | His | His | Arg | Ser | Gln | Glu | Ser | Leu | Thr | Ser | Gln | Glu |  |  |
| 420 |     |     |     | 425 |     |     |     | 430 |     |     |     |     |     |     |     |  |  |
| Ser | Glu | Asp | Thr | Tyr | Leu |     |     |     |     |     |     |     |     |     |     |  |  |
| 435 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 5445

<211> 1187

<212> DNA

<213> Homo sapiens

<400> 5445

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&lt;210&gt; 5446

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5446

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Val | Ile | Lys | Glu | Thr | Val | Thr | Arg | Val | Gly | Arg | Trp | Arg | Cys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Ser | Lys | His | Thr | Thr | Cys | Ala | Lys | Val | Lys | Trp | Pro | Gln | Pro | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Lys | Thr | Gly | Trp | Arg | Phe | Leu | Arg | Arg | Ser | Thr | His | Ser | Arg | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Thr | Gln | Trp | Phe | His | Pro | Gln | Val | Cys | Ser | Asn | Arg | His | His | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Pro | Arg | Pro | His | Ala | Asp | Ser | Asp | Thr | Arg | Ala | His | Ser | Pro | Arg | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| His | Ala | Asp | Ser | Asp | Met | Arg | Ala | His | Ser | Leu | Ser | His | Asp | Ser | Gln |
|     |     | 85  |     |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Val | Glu | Thr | Arg | Gln | Val | Gly | Leu | Gly | Cys |     |     |     |     |     |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     |     |     |     |

&lt;210&gt; 5447

&lt;211&gt; 1444

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5447

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 <212> PRT  
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 Pro His Pro Asp Leu Pro Ala Glu Glu Lys Glu Gln Leu Leu His Asn  
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 Asp Glu Tyr Gln Glu Thr Met Val Glu Ser Thr Phe Met Tyr Leu Thr  
 85 90 95  
 Leu Asp Leu Pro Thr Ala Pro Leu Tyr Lys Asp Glu Lys Glu Gln Leu  
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 130 135 140  
 Phe Gln Leu Thr Lys Leu Pro Pro Tyr Leu Ile Phe Cys Ile Lys Arg  
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<210> 5450

<211> 293

<212> PRT

<213> Homo sapiens

<400> 5450

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Pro | Glu | Glu | Asp | Gln | Arg | Thr | Tyr | Val | Phe | Arg | Ala | Gln | Ser | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Met | Lys | Glu | Arg | Gly | Gly | Asn | Gln | Thr | Ser | Gly | Ile | Asp | Phe | Phe |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ile | Thr | Gln | Glu | Arg | Ile | Val | Phe | Leu | Asp | Thr | Gln | Pro | Ile | Leu | Ser |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Pro | Ser | Ile | Leu | Asp | His | Leu | Ile | Asn | Asn | Asp | Arg | Lys | Leu | Pro | Pro |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Glu | Tyr | Asn | Leu | Pro | His | Thr | Tyr | Val | Glu | Met | Gln | Ser | Leu | Gln | Ile |

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Val Lys Pro Ser Thr Pro Ser Pro Ser His Glu Ser Ser Ser Ser Ser
              115             120             125
Gly Ser Asp Glu Gly Thr Glu Tyr Tyr Pro His Leu Val Phe Phe Gln
              130             135             140
Asn Lys Ala Arg Arg Glu Asp Phe Cys Pro Arg Lys Leu Arg Gln Met
145              150             155             160
His Leu Met Ile Asp Gln Leu Met Ala His Ser His Leu Arg Tyr Lys
              165             170             175
Gly Thr Leu Ser Met Leu Gln Cys Asn Val Phe Pro Gly Leu Pro Pro
              180             185             190
Asp Phe Leu Asp Ser Glu Val Asn Leu Phe Leu Val Pro Phe Met Asp
              195             200             205
Ser Glu Ala Glu Ser Glu Asn Pro Pro Arg Ala Gly Pro Gly Ser Ser
              210             215             220
Pro Leu Phe Ser Leu Leu Pro Gly Tyr Arg Gly His Pro Ser Phe Gln
225              230             235             240
Ser Leu Val Ser Lys Leu Arg Ser Gln Val Met Ser Met Ala Arg Pro
              245             250             255
Gln Leu Ser His Thr Ile Leu Thr Glu Lys Asn Trp Phe His Tyr Ala
              260             265             270
Ala Arg Ile Trp Asp Gly Val Arg Lys Ser Ser Ala Leu Ala Glu Tyr
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Ser Arg Leu Leu Ala
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&lt;210&gt; 5451

&lt;211&gt; 1184

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5451

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540

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 1184

&lt;210&gt; 5452

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5452

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ser | Val | Tyr | Pro | Arg | Pro | Leu | Glu | Gly | Glu | Ser | Arg | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Lys | Gly | Ser | His | Leu | Leu | Ser | Leu | Ala | Glu | Pro | Leu | Pro | Pro | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ser | Pro | Glu | Leu | Ser | Val | Ala | Phe | His | His | Ser | Gly | Pro | Ser | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ser | Pro | Ala | Leu | Ser | Gln | Thr | Thr | Gln | Lys | Ser | Gly | His | Leu | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Pro | Gly | Met | Val | Thr | Glu | Glu | Lys | His | Ala | Val | Pro | Val | Ser | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Phe | Cys | Gln | Lys | Ile | Glu | Gln | Val | Gln | Leu | Thr | His | Cys | Tyr | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Ser | Leu | Lys | Leu | Pro | Gly | Leu | Val | Leu | Asp | Pro | Ser | Arg | Asn | His |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Val | Arg | His | Leu | Glu | Pro | Pro | Gly | Glu | Gly | Pro | Pro | Ser | Arg | Ala |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Lys | Glu | Leu | His | Glu | Ile | Arg | Asn | Cys | Leu | Met | Lys | Cys | Ile | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Tyr | Leu | Glu | Asp | Glu | Ala | Gln | Thr | Pro | Thr | Pro | Leu | Ser | Pro | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Leu | Gly | Met | Ser | Pro | Ala | Ala | Arg | Pro | Arg | Ser | Phe | Pro | Gly | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Gly | Glu | Val | Gly | Ala | Gly | Thr | Ile | Ser | Val | Pro | Ser | Thr | Leu | Thr |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Ser | Thr | Ser | Glu | Thr | Thr | Leu | Pro | Gln | Pro | Asp | Thr | Glu |     |     |

195

200

205

&lt;210&gt; 5453

&lt;211&gt; 1974

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5453

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 1974

&lt;210&gt; 5454

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5454

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Gly | Arg | Pro | Ala | Met | Glu | Pro | Gly | Ser | Val | Glu | Asn | Leu | Ser | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Tyr | Arg | Ser | Arg | Asp | Phe | Leu | Val | Val | Asn | Lys | His | Trp | Asp | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ile | Asp | Ser | Lys | Ala | Trp | Arg | Glu | Thr | Leu | Thr | Leu | Gln | Lys | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Arg | Tyr | Arg | Phe | Pro | Glu | Leu | Ala | Asp | Pro | Asp | Thr | Cys | Tyr | Gly |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Phe | Arg | Phe | Cys | His | Gln | Leu | Asp | Phe | Ser | Thr | Ser | Gly | Ala | Leu | Cys |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Ala | Leu | Asn | Lys | Ala | Ala | Ala | Gly | Ser | Ala | Tyr | Arg | Cys | Phe | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Arg | Arg | Val | Thr | Lys | Ala | Tyr | Leu | Ala | Leu | Leu | Arg | Gly | His | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Glu | Ser | Arg | Val | Thr | Ile | Ser | His | Ala | Ile | Gly | Arg | Asn | Ser | Thr |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Gly | Arg | Ala | His | Thr | Met | Cys | Ile | Glu | Gly | Ser | Gln | Gly | Val | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Glu | Asn | Pro | Lys | Pro | Ser | Leu | Thr | Asp | Leu | Val | Val | Leu | Glu |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| His | Gly | Leu | Tyr | Ala | Gly | Asp | Pro | Val | Ser | Lys | Val | Leu | Leu | Lys | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Thr | Gly | Arg | Thr | His | Gln | Leu | Arg | Val | His | Cys | Ser | Ala | Leu | Gly |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| His | Pro | Val | Val | Gly | Asp | Leu | Thr | Tyr | Gly | Glu | Val | Ser | Gly | Arg | Glu |
|     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Arg | Pro | Phe | Arg | Met | Met | Leu | His | Ala | Phe | Tyr | Leu | Arg | Ile | Pro |

|   |   |     |     |     |
|---|---|-----|-----|-----|
| 210   |   | 215 |     | 220 |
| Thr Asp Thr Glu Cys Val   | Glu Val Cys Thr Pro Asp Pro Phe Leu Pro |     |     |     |
| 225   | 230                                     | 235 | 240 |     |
| Ser Leu Asp Ala Cys Trp Ser Pro His Thr Leu Leu Gln Ser Leu Asp |   |     |     |     |
|   | 245                                     | 250 | 255 |     |
| Gln Leu Val Gln Ala Leu Arg Ala Thr Pro Asp Pro Asp Pro Glu Asp |   |     |     |     |
|   | 260                                     | 265 | 270 |     |
| Arg Gly Pro Arg Pro Gly Ser Pro Ser Ala Leu Leu Pro Gly Pro Gly |   |     |     |     |
|   | 275                                     | 280 | 285 |     |
| Arg Pro Pro Pro Pro Thr Lys Pro Pro Glu Thr Glu Ala Gln Arg     |   |     |     |     |
|   | 290                                     | 295 | 300 |     |
| Gly Pro Cys Leu Gln Trp Leu Ser Glu Trp Thr Leu Glu Pro Asp Ser |   |     |     |     |
| 305   | 310                                     | 315 | 320 |     |

&lt;210&gt; 5455

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5455

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60
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120
tgagcctaag gtaccacagt tagtctcatt tgctcttgt cctgtgaact ccacttagaa
180
tgtcattgaa cttgggcaga cataattcta gtgtctgttc caaacgcact gtgtcacaga
240
agctagaatt accattagag gcacaaaacc ctgagaatac acaagggggc acgcttccag
300
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420
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480
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660
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720
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780
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840
accatgaaca tccccctcca gtccatccac ttcacacct atgagttcct gcaggagcag
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gtcaaccccc accggacct caaccgcag tcccacatca tctcaggcgg gctggccggg
960
gccctcgccg cggcg
975

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<210> 5456  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 5456  
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 Leu Tyr Gly Leu Ala Ser Phe Arg Pro Gly Val Gly Pro His Pro Thr  
 35 40 45  
 His Cys Pro Leu Ala Val Arg Leu Ala Cys Pro Ala Val Pro Thr Thr  
 50 55 60  
 Val Val Lys Gln Arg Leu Gln Met Tyr Asn Ser Gln His Arg Ser Ala  
 65 70 75 80  
 Ile Ser Cys Ile Arg Thr Val Trp Arg Thr Glu Gly Leu Gly Ala Phe  
 85 90 95  
 Tyr Arg Ser Tyr Thr Thr Gln Leu Thr Met Asn Ile Pro Phe Gln Ser  
 100 105 110  
 Ile His Phe Ile Thr Tyr Glu Phe Leu Gln Glu Gln Val Asn Pro His  
 115 120 125  
 Arg Thr Tyr Asn Pro Gln Ser His Ile Ile Ser Gly Gly Leu Ala Gly  
 130 135 140  
 Ala Leu Ala Ala Ala  
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<210> 5457  
 <211> 448  
 <212> DNA  
 <213> Homo sapiens

<400> 5457  
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 120  
 tccgtgtcca cccacatgac agcaggagcg atggccggga tcctggagca ctcgggtcatg  
 180  
 taccgggtgg actcggtgaa ggtaatgtgg actgtggagc tctgtgctgg tcactttcaa  
 240  
 ccctgaacct gatgctactt attttgcagt tctaagtgca aagtcggcct ggtggatgct  
 300  
 tcccattata atattaaatt tgcttcttcg tgaggtcaca cctcacatcc ccagtgtcac  
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 420  
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<210> 5458  
 <211> 81  
 <212> PRT

<213> Homo sapiens

<400> 5458

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          20           25           30
Tyr Glu Asn Leu Pro Thr Ser Ala Ser Val Ser Thr His Met Thr Ala
          35           40           45
Gly Ala Met Ala Gly Ile Leu Glu His Ser Val Met Tyr Pro Val Asp
          50           55           60
Ser Val Lys Val Met Trp Thr Val Glu Leu Cys Ala Gly His Phe Gln
65           70           75           80
Pro

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<210> 5459

<211> 1468

<212> DNA

<213> Homo sapiens

<400> 5459

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120
cggatggagc tgcgcagcgg gagcgtgggc agccaggcgg tggcgcgagg gatggatggg
180
gacagccgag atggcgggcg cggaaggac gccaccgggt cggaggacta cgagaacctg
240
ccgactagcg cctccgtgtc caccacatg acagcaggag cgatggccgg gatcctggag
300
cactcgggtca tgtaccgggt ggactcgggt aagacacgaa tgcagagttt gagtccagat
360
cccaaagccc agtacacaag tatctacgga gccctcaaga aaatcatgca gaccgaaggc
420
ttctggaggg ccttgcgagg cgtcaacgtc atgatcatgg gtgcagggcc agcccatgcc
480
atgtattttg cctgctatga aaacatgaaa aggacttta atgacgtttt ccaccaccaa
540
ggaaacagcc acctagccaa cggtattttg aaagcgtttg tctggagtta gaaagttctc
600
ttcttcaaca cgccccccc cagggtgttc ctccctgtga cccagccgcc tcgacttcgg
660
cccgcttgct cacgaataaa gaactcagag ttgtgtgtgc aatgcacacc cagacacacg
720
cacgcacaca cagcgcgcg cacaacatg cttttttctg tccccctccg ctttctgaag
780
cctggggaga aatcagtgc agaggtgttt tggttttatt gttatgtggg ttttcttttg
840
tatttttttt gtttgttttg tttttaaaca ttcaaaagca attaatgatc agacatagga
900
gaaaccctga atagaaacaa aacttttgaa tgctggattc aaaaaaaaaa aaaagttatc
960

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 ctaactaagc tttaaaaggt caagaagttt tatggctgac aaaggactcg cgcaacgcag  
 1080  
 aaggcctttc ccaccttaag cttccgggga tctgggaatt ttaccccat tctcttctgt  
 1140  
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 1200  
 gagtatggcc accctgctcc acgatgcggt aatgaatcca gcagaaggta atgtttcatg  
 1260  
 gtcccaggga ggggcagtag gggatgtgca aaggggcaca aaaaaatggt tgtgggagag  
 1320  
 tggagaggac tgaaggtggg cagacggctc ctagtctcca gtcagagcag acaggagaat  
 1380  
 tgaatttttt actacgttat caaaggcctc aagaaaggac gtgaacataa gagtttttgg  
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 1468

<210> 5460

<211> 155

<212> PRT

<213> Homo sapiens

<400> 5460

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Leu | Arg | Ser | Gly | Ser | Val | Gly | Ser | Gln | Ala | Val | Ala | Arg | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Asp | Gly | Asp | Ser | Arg | Asp | Gly | Gly | Gly | Lys | Asp | Ala | Thr | Gly |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Glu | Asp | Tyr | Glu | Asn | Leu | Pro | Thr | Ser | Ala | Ser | Val | Ser | Thr | His |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Met | Thr | Ala | Gly | Ala | Met | Ala | Gly | Ile | Leu | Glu | His | Ser | Val | Met | Tyr |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Pro | Val | Asp | Ser | Val | Lys | Thr | Arg | Met | Gln | Ser | Leu | Ser | Pro | Asp | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Ala | Gln | Tyr | Thr | Ser | Ile | Tyr | Gly | Ala | Leu | Lys | Lys | Ile | Met | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Thr | Glu | Gly | Phe | Trp | Arg | Pro | Leu | Arg | Gly | Val | Asn | Val | Met | Ile | Met |
|     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |     |
| Gly | Ala | Gly | Pro | Ala | His | Ala | Met | Tyr | Phe | Ala | Cys | Tyr | Glu | Asn | Met |
|     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |     |
| Lys | Arg | Thr | Leu | Asn | Asp | Val | Phe | His | His | Gln | Gly | Asn | Ser | His | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Ala | Asn | Gly | Ile | Leu | Lys | Ala | Phe | Val | Trp | Ser |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |

<210> 5461

<211> 1725

<212> DNA

<213> Homo sapiens

<400> 5461

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120  
ccgggaggca gcaacgcaag gagccaaaat agtttctttg ccggaatgct ttaattctcc  
180  
atatggagcg aaatattttc ctgaatatgc agagaaaatt cctggtgaat ccacacagaa  
240  
gctttctgaa gtagcaaagg aatgcagcat atatctcatt ggaggtaact tectaccac  
300  
aaggctctat ccctgaagag gatgctggga aattatataa cacctgtgct gtgtttgggc  
360  
ctgatggaac ttactagca aagtatagaa agatccatct gtttgacatt gatgttcctg  
420  
gaaaaattac atttcaagaa tctaaaacat tgagtccggg tgatagtttc tccacatttg  
480  
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540  
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600  
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660  
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720  
cctattaggc tacagttgag tacctcccat ctagataata agcattcaat tagaatgaat  
780  
ttctcatctt tactccgctg atgtaaatga tgtctttatg agatgaagtc caagtaggaa  
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900  
gtgatcatta tgtcatggag gatttccctt gccacacat gctgtaggga gttaactttt  
960  
catttgtgca ttttctgttt ggaaacagct tactgcagag tgggtctggg catctgctac  
1020  
gacatgcggt ttgcagagct tgcacaaata tacgcacaga gaggctgcca gctgttggtg  
1080  
tatccaggag cttttaatct gaccactgga ccagcccatt gggagttact tcagcgaagc  
1140  
cgggctgttg ataatacaggt gtatgtggcc acagcctctc ctgcccggga tgacaaagcc  
1200  
tctatgttg cctggggaca cagcaccgtg gtgaaccctt ggggggaggt tctagccaaa  
1260  
gctggcacag aagaagcaat cgtgtattca gacatagacc tgaagaagct ggctgaaata  
1320  
cgccagcaaa tccccgtttt tagacagaag cgatcagacc tctatgctgt ggagatgaaa  
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1440  
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ctaggttctc tattgagatg agaaagcctc attatgctga cattttccac gccacattaa  
1560  
atagttaaaa aggatgcagc ctggagccag agagcagaaa gctgggctgg ttctgaagct  
1620  
tcttccatac ttaagttgcc tccaagcagt ttgtgaaagt atcagatcct ggtatcctgg  
1680

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1725

<210> 5462

<211> 159

<212> PRT

<213> Homo sapiens

<400> 5462

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Trp | Arg | Ile | Ser | Pro | Ala | Thr | Pro | Cys | Cys | Arg | Glu | Leu | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | His | Leu | Cys | Ile | Phe | Cys | Leu | Glu | Thr | Ala | Tyr | Cys | Arg | Val | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gly | Ile | Cys | Tyr | Asp | Met | Arg | Phe | Ala | Glu | Leu | Ala | Gln | Ile | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gln | Arg | Gly | Cys | Gln | Leu | Leu | Val | Tyr | Pro | Gly | Ala | Phe | Asn | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Thr | Gly | Pro | Ala | His | Trp | Glu | Leu | Leu | Gln | Arg | Ser | Arg | Ala | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Asn | Gln | Val | Tyr | Val | Ala | Thr | Ala | Ser | Pro | Ala | Arg | Asp | Asp | Lys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Ala | Ser | Tyr | Val | Ala | Trp | Gly | His | Ser | Thr | Val | Val | Asn | Pro | Trp | Gly |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Glu | Val | Leu | Ala | Lys | Ala | Gly | Thr | Glu | Glu | Ala | Ile | Val | Tyr | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Asp | Leu | Lys | Lys | Leu | Ala | Glu | Ile | Arg | Gln | Gln | Ile | Pro | Val | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Gln | Lys | Arg | Ser | Asp | Leu | Tyr | Ala | Val | Glu | Met | Lys | Lys | Pro |     |
| 145 |     |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     |

<210> 5463

<211> 792

<212> DNA

<213> Homo sapiens

<400> 5463

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120  
gacaaaggcg agggacaaga gagagttaac atctagacag tggaaaaagc catggtgtgt  
180  
ggtttctggg aaccaccaac acttgcaggt ttagcttttt cccaggggtg actacaagaa  
240  
agaaaacccat gtttttgcaa gattaaaatg tggttgagtg tgcctaaatt aaccatcccc  
300  
atttttatca tatttccacc atcacttcag ggttttaaga gtcagtgtc acctgggcgg  
360  
agctggtagt acattttgct tcttagaaaag ctaagtcctg gggtccgtct gatttttaggt  
420  
tccaggaact tctgagaac acccgatcgc agagggtaat tttctggagt ttgttttgca  
480  
gggatagctg ggagtatggc caccctgctc cacgatgcgg taatgaatcc agcagaagtg  
540

gtgaagcagc gcttgcagat gtacaactcg cagcaccggt cagcaatcag ctgcatccgg  
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 660  
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<210> 5464

<211> 111

<212> PRT

<213> Homo sapiens

<400> 5464

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Gly | Val | Cys | Phe | Ala | Gly | Ile | Ala | Gly | Ser | Met | Ala | Thr | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | His | Asp | Ala | Val | Met | Asn | Pro | Ala | Glu | Val | Val | Lys | Gln | Arg | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Met | Tyr | Asn | Ser | Gln | His | Arg | Ser | Ala | Ile | Ser | Cys | Ile | Arg | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Trp | Arg | Thr | Glu | Gly | Leu | Gly | Ala | Phe | Tyr | Arg | Ser | Tyr | Thr | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gln | Leu | Thr | Met | Asn | Ile | Pro | Phe | Gln | Ser | Ile | His | Phe | Ile | Thr | Tyr |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Phe | Leu | Gln | Glu | Gln | Val | Asn | Pro | His | Arg | Thr | Tyr | Asn | Pro | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | His | Ile | Ile | Ser | Gly | Gly | Leu | Ala | Gly | Ala | Leu | Ala | Ala | Ala |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |

<210> 5465

<211> 497

<212> DNA

<213> Homo sapiens

<400> 5465

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 120  
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 180  
 tggcgtggat gttcgagatg agccaccagc gaagccagta gggatgtctg ggccgtcctg  
 240  
 gtgggattgt ctgggacatc gccaccaaca cgggtgtcaga gccatcagtg gggacatcgg  
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 360  
 aacccccggc aggagacctc ccctgacccc tctgctgcct ctctgtggg accctccagt  
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497

<210> 5466  
<211> 134  
<212> PRT  
<213> Homo sapiens

<400> 5466  
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1 5 10 15  
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20 25 30  
Val Arg Asp Glu Pro Pro Ala Lys Pro Val Gly Met Ser Gly Pro Ser  
35 40 45  
Trp Trp Asp Cys Leu Gly His Arg His Gln His Gly Val Arg Ala Ile  
50 55 60  
Ser Gly Asp Ile Gly Gly Ala Thr Thr Arg Trp Gly Ile Phe Asn Arg  
65 70 75 80  
Leu Glu Pro Leu Arg Leu Glu Arg Pro Thr Pro Gly Arg Arg Pro Pro  
85 90 95  
Leu Thr Pro Leu Leu Pro Leu Leu Trp Asp Pro Pro Val Asp Thr Pro  
100 105 110  
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115 120 125  
Gly Gln Pro Arg Ser Ala  
130

<210> 5467  
<211> 1329  
<212> DNA  
<213> Homo sapiens

<400> 5467  
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120  
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cactttcctg agcacctgga ccactttacg gagaacatgg aggacttctc caatgacctg  
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420  
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480  
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 960  
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 1200  
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<210> 5468

<211> 363

<212> PRT

<213> Homo sapiens

<400> 5468

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ala | Val | Leu | Glu | Pro | Phe | Pro | Ala | Asp | Arg | Leu | Phe | Pro | Gly |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Ser | Phe | Leu | Asp | Leu | Gly | Asp | Leu | Asn | Glu | Ser | Asp | Phe | Leu | Asn |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Ala | His | Phe | Pro | Glu | His | Leu | Asp | His | Phe | Thr | Glu | Asn | Met | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Phe | Ser | Asn | Asp | Leu | Phe | Ser | Ser | Phe | Phe | Asp | Asp | Pro | Val | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Glu | Lys | Ser | Pro | Leu | Leu | Asp | Met | Glu | Leu | Asp | Ser | Pro | Thr | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Ile | Gln | Ala | Glu | His | Ser | Tyr | Ser | Leu | Ser | Gly | Asp | Ser | Ala | Pro |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gln | Ser | Pro | Leu | Val | Pro | Ile | Lys | Met | Glu | Asp | Thr | Thr | Gln | Asp | Ala |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | His | Gly | Ala | Trp | Ala | Leu | Gly | His | Lys | Leu | Cys | Ser | Ile | Met | Val |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Gln | Glu | Gln | Ser | Pro | Glu | Leu | Pro | Val | Asp | Pro | Leu | Ala | Ala | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Ala | Met | Ala | Ala | Ala | Ala | Met | Ala | Thr | Thr | Pro | Leu | Leu | Gly |     |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Ser | Pro | Leu | Ser | Arg | Leu | Pro | Ile | Pro | His | Gln | Ala | Pro | Gly | Glu |

165 170 175  
 Met Thr Gln Leu Pro Val Ile Lys Ala Glu Pro Leu Glu Val Asn Gln  
 180 185 190  
 Phe Leu Lys Val Thr Pro Glu Asp Leu Val Gln Met Pro Pro Thr Pro  
 195 200 205  
 Pro Ser Ser His Gly Ser Asp Ser Asp Gly Ser Gln Ser Pro Arg Ser  
 210 215 220  
 Leu Pro Pro Ser Ser Pro Val Arg Pro Met Ala Arg Ser Ser Thr Ala  
 225 230 235 240  
 Ile Ser Ser Ser Pro Leu Leu Thr Ala Pro His Lys Leu Gln Gly Thr  
 245 250 255  
 Ser Gly Pro Leu Val Leu Thr Glu Glu Glu Lys Arg Thr Leu Ile Ala  
 260 265 270  
 Glu Gly Tyr Pro Ile Pro Thr Lys Leu Pro Leu Thr Lys Ser Glu Glu  
 275 280 285  
 Lys Ala Leu Lys Lys Ile Arg Arg Lys Ile Lys Asn Lys Ile Ser Ala  
 290 295 300  
 Gln Glu Ser Arg Arg Lys Lys Lys Glu Tyr Met Asp Ser Leu Glu Lys  
 305 310 315 320  
 Lys Val Glu Ser Cys Ser Thr Glu Asn Leu Glu Leu Arg Lys Lys Val  
 325 330 335  
 Glu Thr Leu Glu Asn Ala Asn Ser Phe Ser Ser Gly Ile Gln Pro Leu  
 340 345 350  
 Leu Cys Ser Leu Ile Gly Leu Glu Asn Pro Thr  
 355 360

&lt;210&gt; 5469

&lt;211&gt; 1292

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5469

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 180  
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 240  
 gggttatctg acttcctagg ggtgatctca gacacctttg ccccttcgcc agacaaaacc  
 300  
 atcgactgag atgtcatcac cctgatgggc acaccgtctg gcacagctga gccctatgat  
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 420  
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 600  
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 660

gaagagcccg gctgggagga ggaggaagag gagctcatgg gcatttcacc catatctcca  
 720  
 aaagaggcaa aggttcctgt ggccaaaatt tctacattcc ctgaaggaga acctggcccc  
 780  
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 840  
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 960  
 cagggcctgg ctgtggatgt ggggtgagact ggaccctcac cccctattca ctccaagccc  
 1020  
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 1080  
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 1140  
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 1200  
 aaagactttg acttgacat gactgaagag gaggtgcaga tggcactttc caaagtggat  
 1260  
 gcctccgggg agctgaagat gtagaggggg aa  
 1292

<210> 5470

<211> 427

<212> PRT

<213> Homo sapiens

<400> 5470

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ala | Ala | Ser | Thr | Glu | Gly | Glu | Asp | Val | Gly | Trp | Trp | Arg | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Leu | Gln | Gln | Ser | Tyr | Gln | Ala | Val | Lys | Glu | Lys | Ser | Ser | Glu | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Glu | Phe | Met | Lys | Arg | Asp | Leu | Thr | Glu | Phe | Thr | Gln | Val | Val | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Asp | Thr | Ala | Cys | Thr | Ile | Ala | Ala | Thr | Ala | Ser | Val | Val | Lys | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys | Leu | Ala | Thr | Glu | Gly | Ser | Ser | Gly | Ala | Thr | Glu | Lys | Met | Lys | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Leu | Ser | Asp | Phe | Leu | Gly | Val | Ile | Ser | Asp | Thr | Phe | Ala | Pro | Ser |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Pro | Asp | Lys | Thr | Ile | Asp | Cys | Asp | Val | Ile | Thr | Leu | Met | Gly | Thr | Pro |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Gly | Thr | Ala | Glu | Pro | Tyr | Asp | Gly | Thr | Lys | Ala | Arg | Leu | Tyr | Ser |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Leu | Gln | Ser | Asp | Pro | Ala | Thr | Tyr | Cys | Asn | Glu | Pro | Asp | Gly | Pro | Pro |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Glu | Leu | Phe | Asp | Ala | Trp | Leu | Ser | Gln | Phe | Cys | Leu | Glu | Glu | Lys | Lys |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Gly | Glu | Ile | Ser | Glu | Leu | Leu | Val | Gly | Ser | Pro | Ser | Ile | Arg | Ala | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Tyr | Thr | Lys | Met | Val | Pro | Ala | Ala | Val | Ser | His | Ser | Glu | Phe | Trp | His |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Tyr | Phe | Tyr | Lys | Val | His | Gln | Leu | Glu | Gln | Glu | Gln | Ala | Arg | Arg |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 195                     | 200                 | 205                 |
| Asp Ala Leu Lys Gln Arg | Ala Glu Gln Ser Ile | Ser Glu Glu Pro Gly |
| 210                     | 215                 | 220                 |
| Trp Glu Glu Glu Glu Glu | Glu Leu Met Gly Ile | Ser Pro Ile Ser Pro |
| 225                     | 230                 | 235                 |
| Lys Glu Ala Lys Val Pro | Val Ala Lys Ile Ser | Thr Phe Pro Glu Gly |
| 245                     | 250                 | 255                 |
| Glu Pro Gly Pro Gln Ser | Pro Cys Glu Glu Asn | Leu Val Thr Ser Val |
| 260                     | 265                 | 270                 |
| Glu Pro Pro Ala Glu Val | Thr Pro Ser Glu Ser | Ser Glu Ser Ile Ser |
| 275                     | 280                 | 285                 |
| Leu Val Thr Gln Ile Ala | Asn Pro Ala Thr Ala | Pro Glu Ala Arg Val |
| 290                     | 295                 | 300                 |
| Leu Pro Lys Asp Leu Ser | Gln Lys Leu Leu Glu | Ala Ser Leu Glu Glu |
| 305                     | 310                 | 315                 |
| Gln Gly Leu Ala Val Asp | Val Gly Glu Thr Gly | Pro Ser Pro Pro Ile |
| 325                     | 330                 | 335                 |
| His Ser Lys Pro Leu Thr | Pro Ala Gly His Thr | Gly Gly Pro Glu Pro |
| 340                     | 345                 | 350                 |
| Arg Pro Pro Ala Arg Val | Glu Thr Leu Arg Glu | Glu Ala Pro Thr Asp |
| 355                     | 360                 | 365                 |
| Leu Arg Val Phe Glu Leu | Asn Ser Asp Ser Gly | Lys Ser Thr Pro Ser |
| 370                     | 375                 | 380                 |
| Asn Asn Gly Lys Lys Gly | Ser Ser Thr Asp Ile | Ser Glu Asp Trp Glu |
| 385                     | 390                 | 395                 |
| Lys Asp Phe Asp Leu Asp | Met Thr Glu Glu Glu | Val Gln Met Ala Leu |
| 405                     | 410                 | 415                 |
| Ser Lys Val Asp Ala Ser | Gly Glu Leu Lys Met |                     |
| 420                     | 425                 |                     |

<210> 5471  
 <211> 534  
 <212> DNA  
 <213> Homo sapiens

<400> 5471  
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 120  
 ttgccagggtg tggcgacat gtgtgcccg gggcagagta cagagacaca agcttgtgtg  
 180  
 gacacgaatg ttagctatg tgcgagtgc cacggagtgg tgagtgcagg gacccagggc  
 240  
 cggcctgcgt cgggtgcgcag ggcataatagg ggcgtgcacg cagtcttggg ggtgtgtgca  
 300  
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 360  
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 420  
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 480  
 gcatatgtgt ccatgcctgg tgctgtgact catgtccctg ggggtggcac gcgt  
 534

&lt;210&gt; 5472

&lt;211&gt; 161

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5472

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Met Leu Cys Gly Ser Arg His Thr Arg Val Thr His Thr Gln Pro Cys
 1           5           10           15
Pro Arg Leu Pro Pro His Pro His Pro Asp Lys Arg Thr Leu Trp Ser
      20           25           30
Pro Ser Ala His Leu Leu Gly Leu His Thr Gln Arg His Ala Asp Gly
      35           40           45
Phe Leu Cys Leu Cys Thr His Ala Gly Ala Gly Gly Ser Val His Thr
      50           55           60
Pro Pro Arg Leu Arg Ala Arg Pro Tyr Met Pro Cys Ala Pro Thr Gln
      65           70           75           80
Ala Gly Leu Gly Ser Leu His Ser Pro Leu Arg Val His Ser His Ile
      85           90           95
Ala Thr His Ser Cys Pro His Lys Leu Val Ser Leu Tyr Ser Ala His
      100          105          110
Gly His Thr Cys Ala Pro His Leu Ala Thr Arg Thr Pro Gly Leu Cys
      115          120          125
Ile Pro His Pro Gly Ser Gly Pro Arg Val Val Gly Pro Ala Gly Ser
      130          135          140
Ala Ala Ala Ser Ala Arg Thr Val Leu Phe Leu Arg Pro Arg Gly Ala
      145          150          155          160
Ala

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&lt;210&gt; 5473

&lt;211&gt; 691

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5473

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120
catcttcttg ggcctgcagg agacctgaca gatgccaaaa caaaggaaca gttgggatcc
180
aggcagcatg aggtagaatg gcaaacctac cagggtattc tgaagaagac aagagtcatg
240
gaaaaaacca agtggctgga tatcaaagga aatcatgaaa aagatggagg agctcttatt
300
actggccaag gaaagcagtc ggagcaacca tacaatttgg tttggacact ttacaacatc
360
cactattctt tctccatcac caggaatccg gtcaataatg agttcggcta tagcttattt
420
gtgtggacat ctccatacac ttggtggact gatgcctgtt ttgcacactc gtcacttcca
480
gggcactttg gaacttgagg tgggagactg gaaggataat aggaggtacc ggatttttgc
540

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 600  
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<210> 5474

<211> 139

<212> PRT

<213> Homo sapiens

<400> 5474

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Lys | Met | Glu | Glu | Leu | Leu | Leu | Leu | Ala | Lys | Glu | Ser | Ser | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Asn | His | Thr | Ile | Trp | Phe | Gly | His | Phe | Thr | Thr | Ser | Thr | Ile | Leu |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ser | Pro | Ser | Pro | Gly | Ile | Arg | Ser | Ile | Met | Ser | Ser | Ala | Ile | Ala | Tyr |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Leu | Cys | Gly | His | Leu | His | Thr | Leu | Gly | Gly | Leu | Met | Pro | Val | Leu | His |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Thr | Arg | His | Phe | Gln | Gly | Thr | Leu | Glu | Leu | Glu | Val | Gly | Asp | Trp | Lys |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Asn | Arg | Arg | Tyr | Arg | Ile | Phe | Ala | Phe | Asp | His | Asp | Leu | Phe | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Phe | Ala | Asp | Leu | Ile | Phe | Gly | Lys | Trp | Pro | Val | Val | Leu | Ile | Thr | Asn |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Pro | Lys | Ser | Leu | Leu | Tyr | Ser | Cys | Gly | Glu | His | Glu | Pro | Leu | Glu | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Leu | Leu | His | Ser | Thr | His | Ile | Arg | Leu | Val | Thr |     |     |     |     |     |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     |     |     |     |     |

<210> 5475

<211> 628

<212> DNA

<213> Homo sapiens

<400> 5475

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 120  
 aacaaccccc acgccagcta cagcgcccct ccgccagtga gctcctccga cagcgaggcc  
 180  
 cccgaggcca accccgccga cggcagtga gctgacgagg acgatgagga ccgggggggtc  
 240  
 atggccgtca cagcggtaac cgccacagct gccagcgaca ggatggagag cgactcagac  
 300  
 tcagacaaga gttagcgaaa cagtggcctg aagaggaaga cgcctgcgct aaagatgtcg  
 360  
 gtctcgaaac gagcccgaag ggcctccagc gacctggatc aggccagcgt gtccccatcc  
 420  
 gaagaggaga actcggaaag ctcatctgag tcggagaaga ccagcgacca ggacttcaca  
 480

cctgagaaga aagcagcggc cggggcgcca cggagggggc ctctgggggg acggaaaaaa  
 540  
 aagaaggcgc cgtcagcctc cgactccgac tccaaggccg attcggacgg ggccaagcct  
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 gagccggtgg ccatggcgcg gtcggcgt  
 628

<210> 5476  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 5476  
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 35 40 45  
 Ala Pro Pro Val Ser Ser Asp Ser Glu Ala Pro Glu Ala Asn  
 50 55 60  
 Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp Glu Asp Arg Gly Val  
 65 70 75 80  
 Met Ala Val Thr Ala Val Thr Ala Thr Ala Ala Ser Asp Arg Met Glu  
 85 90 95  
 Ser Asp Ser Asp Ser Asp Lys Ser Ser Asp Asn Ser Gly Leu Lys Arg  
 100 105 110  
 Lys Thr Pro Ala Leu Lys Met Ser Val Ser Lys Arg Ala Arg Lys Ala  
 115 120 125  
 Ser Ser Asp Leu Asp Gln Ala Ser Val Ser Pro Ser Glu Glu Glu Asn  
 130 135 140  
 Ser Glu Ser Ser Ser Glu Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr  
 145 150 155 160  
 Pro Glu Lys Lys Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly  
 165 170 175  
 Gly Arg Lys Lys Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys  
 180 185 190  
 Ala Asp Ser Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser  
 195 200 205  
 Ala

<210> 5477  
 <211> 727  
 <212> DNA  
 <213> Homo sapiens

<400> 5477  
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 120  
 gggcccttct cactgagctc gtgaagtgcc tcaagtcaagg caaggtcccc tgggtccatat  
 180

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<211> 99

<212> PRT

<213> Homo sapiens

<400> 5478

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| Ser | Ala | Ser | Val | Lys | Ala | Arg | Ser | Pro | Gly | Pro | Tyr | Gly | Pro | Pro | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Trp | Gly | Trp | Ala | Gly | Pro | Tyr | Ser | Ala | Tyr | Val | Ser | Leu | Cys | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Pro | Gly | Gln | Arg | Gly | Arg | Lys | Arg | Trp | Leu | Leu | Val | Arg | Leu | Tyr |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Lys | Thr | Trp | Pro | Leu | Thr | Cys | Arg | Pro | Pro | Thr | Gln | Leu | Ala | Gly | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ala | Gly | Leu | Ser | Pro | Leu | Ala | Ser | Pro | Gly | Pro | Leu | Ala | Gly | Ser | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Ser | Leu | Ser | Ala | Leu | Ser | Ala | Arg | Pro | Pro | Pro | Asp | Ser | Ser | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Ser | Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |

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<211> 1386

<212> DNA

<213> Homo sapiens

<400> 5479

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<212> PRT

<213> Homo sapiens

<400> 5480

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gly | Thr | Thr | Asp | Arg | Glu | Glu | Ala | Thr | Arg | Leu | Leu | Ala | Glu | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Arg | Gln | Ala | Arg | Glu | Gln | Arg | Glu | Arg | Glu | Glu | Gln | Glu | Arg | Arg |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Leu | Gln | Ala | Glu | Arg | Asp | Lys | Arg | Met | Arg | Glu | Glu | Gln | Leu | Ala | Arg |

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 Ala Glu Arg Gln Arg Leu Glu Arg Glu Lys His Phe Gln Gln Gln Glu  
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 Ile Pro Gln Glu Pro Gln Trp Ser Leu Pro Ser Lys Glu Leu Pro Ala  
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&lt;210&gt; 5481

&lt;211&gt; 1513

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5481

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&lt;210&gt; 5482

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5482

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Asn | Ser | Gly | Cys | Lys | Asp | Val | Thr | Gly | Pro | Asp | Glu | Glu | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Leu | Tyr | Phe | Ala | Tyr | Gly | Ser | Asn | Leu | Leu | Thr | Glu | Arg | Ile | His |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Arg | Asn | Pro | Ser | Ala | Ala | Phe | Cys | Val | Ala | Arg | Leu | Gln | Asp |     |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Lys | Leu | Asp | Phe | Gly | Asn | Ser | Gln | Gly | Lys | Thr | Ser | Gln | Thr | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| His | Gly | Gly | Ile | Ala | Thr | Ile | Phe | Gln | Ser | Pro | Gly | Asp | Glu | Leu | Trp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Val | Val | Trp | Lys | Met | Asn | Lys | Ser | Asn | Leu | Asn | Ser | Leu | Asp | Glu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gln | Glu | Gly | Val | Lys | Ser | Gly | Met | Tyr | Val | Val | Ile | Glu | Val | Lys | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Thr | Gln | Glu | Gly | Lys | Glu | Ile | Thr | Cys | Arg | Ser | Tyr | Leu | Met | Thr |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Asn Tyr Glu Ser Ala Pro Pro Ser Pro Gln Tyr Lys Lys Ile Ile Cys |     |     |
| 130   | 135 | 140 |
| Met Gly Ala Lys Glu Asn Gly Leu Pro Leu Glu Tyr Gln Glu Lys Leu |     |     |
| 145   | 150 | 155 |
| Lys Ala Ile Glu Pro Asn Asp Tyr Thr Gly Lys Val Ser Glu Glu Ile |     |     |
| 165   | 170 | 175 |
| Glu Asp Ile Ile Lys Lys Gly Glu Thr Gln Thr Leu                 |     |     |
| 180   | 185 |     |

&lt;210&gt; 5483

&lt;211&gt; 1552

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5483

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 <213> Homo sapiens

<400> 5484

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| Thr | Phe | Leu | Asp | Ser | His | Cys | Glu | Val | Asn | Arg | Asp | Trp | Leu | Gln | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Xaa | Asp | Arg | Val | Lys | Glu | Asp | Tyr | Thr | Arg | Val | Val | Cys | Pro | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Asp | Ile | Ile | Asn | Leu | Asp | Thr | Phe | Thr | Tyr | Ile | Glu | Ser | Ala | Ser |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Leu | Arg | Gly | Gly | Phe | Asp | Trp | Ser | Leu | His | Phe | Gln | Trp | Glu | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Ser | Pro | Glu | Gln | Lys | Ala | Arg | Arg | Leu | Asp | Pro | Thr | Glu | Pro | Ile |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Thr | Pro | Ile | Ile | Ala | Gly | Gly | Leu | Phe | Val | Ile | Asp | Lys | Ala | Trp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Phe | Asp | Tyr | Leu | Gly | Lys | Tyr | Asp | Met | Asp | Met | Asp | Ile | Trp | Gly | Gly |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Glu | Asn | Phe | Glu | Ile | Ser | Phe | Arg | Val | Trp | Met | Cys | Gly | Gly | Ser | Leu |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Glu | Ile | Val | Pro | Cys | Ser | Arg | Val | Gly | His | Val | Phe | Arg | Lys | Lys | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Tyr | Val | Phe | Pro | Asp | Gly | Asn | Ala | Asn | Thr | Tyr | Ile | Lys | Asn | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | Arg | Thr | Ala | Glu | Val | Trp | Met | Asp | Glu | Tyr | Lys | Gln | Tyr | Tyr | Tyr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |     |     |
| Ala | Ala | Arg | Pro | Phe | Ala | Leu | Glu | Arg | Pro | Phe | Gly | Asn | Val | Glu | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Arg | Leu | Asp | Leu | Arg | Lys | Asn | Leu | Arg | Cys | Gln | Ser | Phe | Lys | Trp | Tyr |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Leu | Glu | Asn | Ile | Tyr | Pro | Glu | Leu | Ser | Ile | Pro | Lys | Glu | Phe | Ser | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Lys | Gly | Asn | Ile | Arg | Gln | Arg | Gln | Lys | Cys | Leu | Glu | Ser | Gln | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Gln | Asn | Asn | Gln | Glu | Thr | Pro | Asn | Leu | Lys | Leu | Ser | Pro | Cys | Ala | Lys |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |     |
| Val | Lys | Gly | Glu | Asp | Ala | Lys | Ser | Gln | Val | Trp | Ala | Phe | Thr | Tyr | Thr |

|             |                         |                     |                 |     |     |
|-------------|-------------------------|---------------------|-----------------|-----|-----|
|             | 260                     |                     | 265             |     | 270 |
| Gln Lys Ile | Leu Gln Glu Glu         | Leu Cys Leu Ser Val | Ile Thr Leu Phe |     |     |
|             | 275                     |                     | 280             |     | 285 |
| Pro Gly Ala | Pro Val Val Leu Val     | Leu Cys Lys Asn Gly | Asp Asp Arg     |     |     |
|             | 290                     |                     | 295             |     | 300 |
| Gln Gln Trp | Thr Lys Thr Gly Ser His | Ile Glu His Ile Ala | Ser His         |     |     |
| 305         |                         | 310                 |                 | 315 | 320 |
| Leu Cys Leu | Asp Thr Asp Met Phe Gly | Asp Gly Thr Glu Asn | Gly Lys         |     |     |
|             | 325                     |                     | 330             |     | 335 |
| Glu Ile Val | Val Asn Pro Cys Glu Ser | Ser Leu Met Ser     | Gln His Trp     |     |     |
|             | 340                     |                     | 345             |     | 350 |
| Asp Met Val | Ser Ser                 |                     |                 |     |     |
|             | 355                     |                     |                 |     |     |

&lt;210&gt; 5485

&lt;211&gt; 1549

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5485

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| Met | Ser | Asn | Tyr | Val | Asn | Asp | Met | Trp | Pro | Gly | Ser | Pro | Gln | Glu | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Ser | Pro | Ser | Thr | Ser | Arg | Ser | Gly | Gly | Ser | Ser | Arg | Leu | Ser | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ser | Arg | Ser | Arg | Ser | Phe | Ser | Arg | Ser | Ser | Arg | Ser | His | Ser | Arg |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |
| Val | Ser | Ser | Arg | Phe | Ser | Ser | Arg | Ser | Arg | Arg | Ser | Lys | Ser | Arg | Ser |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Arg | Ser | Arg | Arg | Arg | His | Gln | Arg | Lys | Tyr | Arg | Arg | Tyr | Ser | Arg | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Tyr | Ser | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Arg | Tyr | Arg | Glu | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Tyr | Gly | Phe | Thr | Arg | Arg | Tyr | Tyr | Arg | Ser | Pro | Ser | Arg | Tyr | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Gly | Arg | Ser | Tyr | Cys | Gly |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Ala | Tyr | Ala | Ile | Ala | Arg | Gly | Gln | Arg | Tyr | Tyr | Gly | Phe | Gly | Arg |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Thr | Val | Tyr | Pro | Glu | Glu | His | Ser | Arg | Trp | Arg | Asp | Arg | Ser | Arg | Thr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Ser | Arg | Ser | Arg | Thr | Pro | Phe | Arg | Leu | Ser | Glu | Lys | Asp | Arg | Met |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Glu | Leu | Leu | Glu | Ile | Ala | Lys | Thr | Asn | Ala | Ala | Lys | Ala | Leu | Gly | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Asn | Ile | Asp | Leu | Pro | Ala | Ser | Leu | Arg | Thr | Val | Pro | Ser | Ala | Lys |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Thr | Ser | Arg | Gly | Ile | Gly | Val | Ser | Ser | Asn | Gly | Ala | Lys | Pro | Glu |
|     |     |     | 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |
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&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5488

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| Leu | Gly | Leu | Gln | Thr | Arg | Met | Gln | Ser | Leu | Ser | Pro | Asp | Pro | Lys | Ala |
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| Gln | Tyr | Thr | Ser | Ile | Tyr | Gly | Ala | Leu | Lys | Lys | Ile | Met | Arg | Thr | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Phe | Trp | Arg | Pro | Leu | Arg | Gly | Val | Asn | Val | Met | Ile | Met | Gly | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Pro | Ala | His | Ala | Met | Tyr | Phe | Ala | Cys | Tyr | Glu | Asn | Met | Lys | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Leu | Asn | Asp | Val | Phe | His | His | Gln | Gly | Asn | Ser | His | Leu | Ala | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Ile | Ala | Gly | Ser | Met | Ala | Thr | Leu | Leu | His | Asp | Ala | Val | Met | Asn |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Pro | Ala | Glu | Val | Val | Lys | Gln | Arg | Leu | Gln | Met | Tyr | Asn | Ser | Gln | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Ser | Ala | Ile | Ser | Cys | Ile | Arg | Thr | Val | Trp | Arg | Thr | Glu | Gly | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Ala | Phe | Tyr | Arg | Ser | Tyr | Thr | Thr | Gln | Leu | Thr | Met | Asn | Ile | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Gln | Ser | Ile | His | Phe | Ile | Thr | Tyr | Glu | Phe | Leu | Gln | Glu | Gln | Val |
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| Asn | Pro | His | Arg | Thr | Tyr | Asn | Pro | Gln | Ser | His | Ile | Ile | Ser | Gly | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Leu | Ala | Gly | Ala | Leu | Ala | Ala | Ala | Ala | Thr | Thr | Pro | Leu | Asp | Val | Cys |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Lys | Thr | Leu | Leu | Asn | Thr | Gln | Glu | Asn | Val | Ala | Leu | Ser | Leu | Ala | Asn |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Ile | Ser | Gly | Arg | Leu | Ser | Gly | Met | Ala | Asn | Ala | Phe | Arg | Thr | Val | Tyr |

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| 225   | 230 | 235 |
| Ile Tyr Gln Met Pro Ser Thr Ala Ile Ser Trp Ser Val Tyr Glu Phe |     | 240 |
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| Asp | Gly | Pro | Ile | Glu | Phe | Gly | Gly | Pro | Glu | Asn | Pro | Lys | Leu | Glu | Met |
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| Leu | Glu | Lys | Ile | Leu | Gln | Arg | Gln | Phe | Ser | Ser | Ser | Asn | Ser | Pro | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Ile | Ile | Phe | Thr | Arg | Thr | Arg | Gln | Ser | Ala | His | Ser | Leu | Leu | Leu |
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| Leu | Leu | Ile | Gly | Ala | Gly | Asn | Ser | Ser | Gln | Ser | Thr | His | Met | Thr | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Arg | Asp | Gln | Gln | Glu | Val | Ile | Gln | Lys | Phe | Gln | Asp | Gly | Thr | Leu | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Leu | Val | Ala | Thr | Ser | Val | Ala | Glu | Glu | Gly | Leu | Asp | Ile | Pro | His |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Asn | Val | Val | Val | Arg | Tyr | Gly | Leu | Leu | Thr | Asn | Glu | Ile | Ser | Met |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Gln | Ala | Arg | Gly | Arg | Ala | Arg | Ala | Asp | Gln | Ser | Val | Tyr | Ala | Phe |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Val | Ala | Thr | Glu | Gly | Ser | Arg | Glu | Leu | Lys | Arg | Glu | Leu | Ile | Asn | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Leu | Glu | Thr | Leu | Met | Glu | Gln | Ala | Val | Ala | Ala | Val | Gln | Lys | Met |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Gln | Ala | Glu | Tyr | Gln | Ala | Lys | Ile | Arg | Asp | Leu | Gln | Gln | Ala | Ala |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Thr | Lys | Arg | Ala | Ala | Gln | Ala | Ala | Gln | Arg | Glu | Asn | Gln | Arg | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Gln | Phe | Pro | Val | Glu | His | Val | Gln | Leu | Leu | Cys | Ile | Asn | Cys | Met | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ala | Val | Gly | His | Gly | Ser | Asp | Leu | Arg | Lys | Val | Glu | Gly | Thr | His | His |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Asn | Val | Asn | Pro | Asn | Phe | Ser | Asn | Tyr | Tyr | Asn | Val | Ser | Arg | Asp |

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&lt;210&gt; 5492

&lt;211&gt; 602

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5492

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4667

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|   | 485 | 490 |
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|   | 500 | 505 |
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| 545   | 550 | 555 |
| Ser Leu Gln Thr Pro Thr Thr Lys Arg Met Leu Thr Thr Pro Asn His |     | 560 |
|   | 565 | 570 |
| Thr Ser Leu Ser Ile Leu Gly Lys Arg Asn Tyr Ser His His Asn Gly |     | 575 |
|   | 580 | 585 |
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&lt;210&gt; 5493

&lt;211&gt; 6538

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5493

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&lt;210&gt; 5494

&lt;211&gt; 1278

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5494

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| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |
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|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |
| Cys | Gly | Lys | Asp | Ala | Asp | Ala | Cys | Asn | Ala | Thr | Asn | Trp | Ile | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |
| Met | Phe | Asn | Lys | Asp | Asn | Gly | Gln | Ala | Pro | Phe | Thr | Ile | Thr | Pro |
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| Phe | Ser | Asp | Phe | Pro | Val | His | Gly | Met | Glu | Pro | Met | Asn | Asn | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     | Thr |
| Lys | Gly | Cys | Asp | Glu | Ser | Val | Asp | Glu | Val | Thr | Ala | Pro | Cys | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Gln | Asp | Cys | Ser | Ile | Val | Cys | Gly | Pro | Lys | Pro | Gln | Pro | Pro | Pro |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |
| Pro | Ala | Pro | Trp | Thr | Ile | Leu | Gly | Leu | Asp | Ala | Met | Tyr | Val | Ile |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 | Met |
| Trp | Ile | Thr | Tyr | Met | Ala | Phe | Leu | Leu | Val | Phe | Phe | Gly | Ala | Phe |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     | Phe |
| Ala | Val | Trp | Cys | Tyr | Arg | Lys | Arg | Tyr | Phe | Val | Ser | Glu | Tyr | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     | Pro |
| Ile | Asp | Ser | Asn | Ile | Ala | Phe | Ser | Val | Asn | Ala | Ser | Asp | Lys | Gly |
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| Ala | Ser | Cys | Cys | Asp | Pro | Val | Ser | Ala | Ala | Phe | Glu | Gly | Cys | Leu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |
| Arg | Leu | Phe | Thr | Arg | Trp | Gly | Ser | Phe | Cys | Val | Arg | Asn | Pro | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     | Cys |
| Val | Ile | Phe | Phe | Ser | Leu | Val | Phe | Ile | Thr | Ala | Cys | Ser | Ser | Gly |
|     | 355 |     |     |     |     |     | 360 |     |     |     | 365 |     |     | Leu |
| Val | Phe | Val | Arg | Val | Thr | Thr | Asn | Pro | Val | Asp | Leu | Trp | Ser | Ala |
|     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     | Pro |
| Ser | Ser | Gln | Ala | Arg | Leu | Glu | Lys | Glu | Tyr | Phe | Asp | Gln | His | Phe |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     | 400 |
| Pro | Phe | Phe | Arg | Thr | Glu | Gln | Leu | Ile | Ile | Arg | Ala | Pro | Leu | Thr |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 | Asp |
| Lys | His | Ile | Tyr | Gln | Pro | Tyr | Pro | Ser | Gly | Ala | Asp | Val | Pro | Phe |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     | 430 |     | Gly |
| Pro | Pro | Leu | Asp | Ile | Gln | Ile | Leu | His | Gln | Val | Leu | Asp | Leu | Gln |
|     |     | 435 |     |     |     |     | 440 |     |     |     | 445 |     |     | Ile |
| Ala | Ile | Glu | Asn | Ile | Thr | Ala | Ser | Tyr | Asp | Asn | Glu | Thr | Val | Thr |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     | Leu |
| Gln | Asp | Ile | Cys | Leu | Ala | Pro | Leu | Ser | Pro | Tyr | Asn | Thr | Asn | Cys |
| 465 |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Ile | Leu | Ser | Val | Leu | Asn | Tyr | Phe | Gln | Asn | Ser | His | Ser | Val | Leu |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 | Asp |
| His | Lys | Lys | Gly | Asp | Asp | Phe | Phe | Val | Tyr | Ala | Asp | Tyr | His | Thr |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     | His |
| Phe | Leu | Tyr | Cys | Val | Arg | Ala | Pro | Ala | Ser | Leu | Asn | Asp | Thr | Ser |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     | Leu |
| Leu | His | Asp | Pro | Cys | Leu | Gly | Thr | Phe | Gly | Gly | Pro | Val | Phe | Pro |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     | Trp |
| Leu | Val | Leu | Gly | Gly | Tyr | Asp | Asp | Gln | Asn | Tyr | Asn | Asn | Ala | Thr |
| 545 |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Leu | Val | Ile | Thr | Phe | Pro | Val | Asn | Asn | Tyr | Tyr | Asn | Asp | Thr | Glu |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 |     | Lys |
| Leu | Gln | Arg | Ala | Gln | Ala | Trp | Glu | Lys | Glu | Phe | Ile | Asn | Phe | Val |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|--|--|--|
|     |     |     |     |     |     |     |     |     |     | 580 |     |     |     | 585 |     |  |  | 590 |  |  |  |
| Asn | Tyr | Lys | Asn | Pro | Asn | Leu | Thr | Ile | Ser | Phe | Thr | Ala | Glu | Arg | Ser |  |  |     |  |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |     |  |  |  |
| Ile | Glu | Asp | Glu | Leu | Asn | Arg | Glu | Ser | Asp | Ser | Asp | Val | Phe | Thr | Val |  |  |     |  |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |     |  |  |  |
| Val | Ile | Ser | Tyr | Ala | Ile | Met | Phe | Leu | Tyr | Ile | Ser | Leu | Ala | Leu | Gly |  |  |     |  |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |     |  |  |  |
| His | Ile | Lys | Ser | Cys | Arg | Arg | Leu | Leu | Val | Asp | Ser | Lys | Val | Ser | Leu |  |  |     |  |  |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |     |  |  |  |
| Gly | Ile | Ala | Gly | Ile | Leu | Ile | Val | Leu | Ser | Ser | Val | Ala | Cys | Ser | Leu |  |  |     |  |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |     |  |  |  |
| Gly | Val | Phe | Ser | Tyr | Ile | Gly | Leu | Pro | Leu | Thr | Leu | Ile | Val | Ile | Glu |  |  |     |  |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |     |  |  |  |
| Val | Ile | Pro | Phe | Leu | Val | Leu | Ala | Val | Gly | Val | Asp | Asn | Ile | Phe | Ile |  |  |     |  |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |     |  |  |  |
| Leu | Val | Gln | Ala | Tyr | Gln | Arg | Asp | Glu | Arg | Leu | Gln | Gly | Glu | Thr | Leu |  |  |     |  |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |     |  |  |  |
| Asp | Gln | Gln | Leu | Gly | Arg | Val | Leu | Gly | Glu | Val | Ala | Pro | Ser | Met | Phe |  |  |     |  |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |     |  |  |  |
| Leu | Ser | Ser | Phe | Ser | Glu | Thr | Val | Ala | Phe | Phe | Leu | Gly | Ala | Leu | Ser |  |  |     |  |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |     |  |  |  |
| Val | Met | Pro | Ala | Val | His | Thr | Phe | Ser | Leu | Phe | Ala | Gly | Leu | Ala | Val |  |  |     |  |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |     |  |  |  |
| Phe | Ile | Asp | Phe | Leu | Leu | Gln | Ile | Thr | Cys | Phe | Val | Ser | Leu | Leu | Gly |  |  |     |  |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |     |  |  |  |
| Leu | Asp | Ile | Lys | Arg | Gln | Glu | Lys | Asn | Arg | Leu | Asp | Ile | Phe | Cys | Cys |  |  |     |  |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |     |  |  |  |
| Val | Arg | Gly | Ala | Glu | Asp | Gly | Thr | Ser | Val | Gln | Ala | Ser | Glu | Ser | Cys |  |  |     |  |  |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |     |  |  |  |
| Leu | Phe | Arg | Phe | Phe | Lys | Asn | Ser | Tyr | Ser | Pro | Leu | Leu | Leu | Lys | Asp |  |  |     |  |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |     |  |  |  |
| Trp | Met | Arg | Pro | Ile | Val | Ile | Ala | Ile | Phe | Val | Gly | Val | Leu | Ser | Phe |  |  |     |  |  |  |
|     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |     |  |  |  |
| Ser | Ile | Ala | Val | Leu | Asn | Lys | Val | Asp | Ile | Gly | Leu | Asp | Gln | Ser | Leu |  |  |     |  |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |     |  |  |  |
| Ser | Met | Pro | Asp | Asp | Ser | Tyr | Met | Val | Asp | Tyr | Phe | Lys | Ser | Ile | Ser |  |  |     |  |  |  |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |  |  |     |  |  |  |
| Gln | Tyr | Leu | His | Ala | Gly | Pro | Pro | Val | Tyr | Phe | Val | Leu | Glu | Glu | Gly |  |  |     |  |  |  |
|     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |     |  |  |     |  |  |  |
| His | Asp | Tyr | Thr | Ser | Ser | Lys | Gly | Gln | Asn | Met |     |     |     |     |     |  |  |     |  |  |  |

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 Lys Ala Arg Leu Ile Ala Ser Asn Val Thr Glu Thr Met Gly Ile Asn  
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 1075 1080 1085  
 Glu Gln Tyr Leu Thr Ile Ile Asp Asp Thr Ile Phe Asn Leu Gly Val  
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 Glu Arg Ala Glu Glu Ala Leu Ala His Met Gly Ser Ser Val Phe Ser  
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&lt;210&gt; 5495

&lt;211&gt; 2414

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5495

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&lt;210&gt; 5496

&lt;211&gt; 345

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5496

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Trp | Lys | Arg | Arg | Leu | Gly | Cys | Lys | Phe | Pro | Gly | Arg | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Phe | Ile | Pro | Asn | Ser | Gln | Trp | Thr | Glu | Val | Ser | Trp | Phe | Leu | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Leu | Gly | Ser | Met | Ala | Leu | Ser | Asn | His | Tyr | Arg | Ser | Glu | Asp | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Asp | Val | Asp | Thr | Ala | Ala | Gly | Gly | Phe | Gln | Gln | Arg | Gln | Gly | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Tyr | Cys | Leu | Pro | Leu | Thr | Phe | Cys | Ile | His | Thr | Gly | Leu | Ser | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Tyr | Ile | Ala | Val | Glu | Ala | Ala | Glu | Gly | Arg | Asn | Lys | Asn | Glu | Val | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Gln | Cys | Pro | Asp | Gln | Met | Ala | Arg | Asn | Pro | Ala | Ala | Ile | Asp | Met |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Ile | Ile | Gly | Ala | Thr | Phe | Thr | Asp | Trp | Phe | Thr | Ser | Tyr | Val | Lys |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asn | Val | Val | Ser | Gly | Gly | Phe | Pro | Ile | Ile | Arg | Asp | Gln | Ile | Phe | Arg |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Val | His | Asp | Pro | Glu | Cys | Val | Ala | Thr | Thr | Gly | Asp | Ile | Thr | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Val | Ser | Thr | Ser | Phe | Leu | Pro | Glu | Leu | Ser | Ser | Val | His | Pro | Pro |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| His | Tyr | Phe | Phe | Thr | Tyr | Arg | Ile | Arg | Ile | Glu | Met | Ser | Lys | Asp | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Pro | Glu | Lys | Ala | Cys | Gln | Leu | Asp | Ser | Arg | Tyr | Trp | Arg | Ile | Thr |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Asn | Ala | Lys | Gly | Asp | Val | Glu | Glu | Val | Gln | Gly | Pro | Gly | Val | Val | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Phe | Pro | Ile | Ile | Ser | Pro | Gly | Arg | Val | Tyr | Glu | Tyr | Thr | Ser | Cys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Thr | Thr | Phe | Ser | Thr | Thr | Ser | Gly | Tyr | Met | Glu | Gly | Tyr | Tyr | Thr | Phe |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| His | Phe | Leu | Tyr | Phe | Lys | Asp | Lys | Ile | Phe | Asn | Val | Ala | Ile | Pro | Arg |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |     |
| Phe | His | Met | Ala | Cys | Pro | Thr | Phe | Arg | Val | Ser | Ile | Ala | Arg | Leu | Glu |
|     | 275 |     | 280 |     | 285 |     |     |     |     |     |     |     |     |     |     |
| Met | Gly | Pro | Asp | Glu | Tyr | Glu | Glu | Met | Glu | Glu | Glu | Glu | Glu | Glu | Glu |
|     | 290 |     | 295 |     | 300 |     |     |     |     |     |     |     |     |     |     |
| Glu | Glu | Glu | Asp | Glu | Asp | Asp | Asp | Ser | Ala | Asp | Met | Asp | Glu | Ser | Asp |
| 305 |     |     | 310 |     | 315 |     |     |     |     |     |     |     |     | 320 |     |
| Glu | Asp | Asp | Glu | Glu | Glu | Arg | Arg | Arg | Arg | Val | Phe | Asp | Val | Pro | Ile |
|     |     |     | 325 |     | 330 |     |     |     |     |     |     |     |     | 335 |     |
| Arg | Arg | Arg | Arg | Cys | Ser | Arg | Leu | Phe |     |     |     |     |     |     |     |
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&lt;210&gt; 5497

&lt;211&gt; 1056

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5497

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<400> 5498  
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 His Pro Pro Ala Phe Ala Pro Arg Thr Leu Arg Met Ala Gln Leu Val  
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 Ala Gln Leu Trp Trp Ser Ser Pro Phe Ile His Ser Pro Gly Glu Thr  
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 Glu Glu Asp Glu Glu Glu Gly Asn Arg Ser Arg Lys Ser Arg Asp Ser  
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 Arg Ser Gln Val Lys Gly Leu Pro Leu His Ser Arg Glu Gln Arg Asp  
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<211> 426

<212> PRT

<213> Homo sapiens

<400> 5500

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| Met | Ser | Pro | Ala | Phe | Arg | Ala | Met | Asp | Val | Glu | Pro | Arg | Ala | Lys | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Leu | Leu | Glu | Pro | Phe | Val | His | Gln | Val | Gly | Gly | His | Ser | Cys | Val |

| 20  |     |     |     |     |     |     |     |     |     | 25  |     |     |     |     | 30  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Leu | Arg | Phe | Asn | Glu | Thr | Thr | Leu | Cys | Lys | Pro | Leu | Val | Pro | Arg | Glu |  |  |  |  |
| 35  |     |     |     |     |     | 40  |     |     | 45  |     |     |     |     |     |     |  |  |  |  |
| His | Gln | Phe | Tyr | Glu | Thr | Leu | Pro | Ala | Glu | Met | Arg | Lys | Phe | Thr | Pro |  |  |  |  |
| 50  |     |     | 55  |     |     | 60  |     |     |     |     |     |     |     |     |     |  |  |  |  |
| Gln | Tyr | Lys | Gly | Val | Val | Ser | Val | Arg | Phe | Glu | Glu | Asp | Glu | Asp | Arg |  |  |  |  |
| 65  |     |     |     | 70  |     |     | 75  |     |     |     |     |     | 80  |     |     |  |  |  |  |
| Asn | Leu | Cys | Leu | Ile | Ala | Tyr | Pro | Leu | Lys | Gly | Asp | His | Gly | Ile | Val |  |  |  |  |
|     |     |     | 85  |     |     | 90  |     |     |     |     |     | 95  |     |     |     |  |  |  |  |
| Asp | Ile | Ala | His | Asn | Ser | Asp | Cys | Glu | Pro | Lys | Ser | Lys | Leu | Leu | Arg |  |  |  |  |
|     |     |     | 100 |     |     | 105 |     |     |     |     |     | 110 |     |     |     |  |  |  |  |
| Trp | Thr | Thr | Asn | Lys | Lys | His | His | Val | Leu | Glu | Thr | Glu | Lys | Thr | Pro |  |  |  |  |
| 115 |     |     | 120 |     |     | 125 |     |     |     |     |     |     |     |     |     |  |  |  |  |
| Lys | Asp | Trp | Val | Arg | Gln | His | Arg | Lys | Glu | Glu | Lys | Met | Lys | Ser | His |  |  |  |  |
| 130 |     |     |     | 135 |     |     | 140 |     |     |     |     |     |     |     |     |  |  |  |  |
| Lys | Leu | Glu | Glu | Glu | Phe | Glu | Trp | Leu | Lys | Lys | Ser | Glu | Val | Leu | Tyr |  |  |  |  |
| 145 |     |     |     | 150 |     |     | 155 |     |     |     |     |     | 160 |     |     |  |  |  |  |
| Tyr | Thr | Val | Glu | Lys | Lys | Gly | Asn | Ile | Ser | Ser | Gln | Leu | Lys | His | Tyr |  |  |  |  |
|     |     |     | 165 |     |     | 170 |     |     |     |     |     | 175 |     |     |     |  |  |  |  |
| Asn | Pro | Trp | Ser | Met | Lys | Cys | His | Gln | Gln | Gln | Leu | Gln | Arg | Met | Lys |  |  |  |  |
|     |     |     | 180 |     |     | 185 |     |     |     |     |     | 190 |     |     |     |  |  |  |  |
| Glu | Asn | Ala | Lys | His | Arg | Asn | Gln | Tyr | Lys | Phe | Ile | Leu | Leu | Glu | Asn |  |  |  |  |
| 195 |     |     | 200 |     |     | 205 |     |     |     |     |     |     |     |     |     |  |  |  |  |
| Leu | Thr | Ser | Arg | Tyr | Glu | Val | Pro | Cys | Val | Leu | Asp | Leu | Lys | Met | Gly |  |  |  |  |
| 210 |     |     |     | 215 |     |     | 220 |     |     |     |     |     |     |     |     |  |  |  |  |
| Thr | Arg | Gln | His | Gly | Asp | Ala | Ser | Glu | Glu | Lys | Ala | Ala | Asn | Gln |     |  |  |  |  |
| 225 |     |     |     | 230 |     |     | 235 |     |     |     |     |     | 240 |     |     |  |  |  |  |
| Ile | Arg | Lys | Cys | Gln | Gln | Ser | Thr | Ser | Ala | Val | Ile | Gly | Val | Xaa | Val |  |  |  |  |
|     |     |     | 245 |     |     | 250 |     |     |     |     |     | 255 |     |     |     |  |  |  |  |
| Cys | Gly | Met | Gln | Val | Tyr | Gln | Ala | Gly | Ser | Gly | Gln | Leu | Met | Phe | Met |  |  |  |  |
|     |     |     | 260 |     |     | 265 |     |     |     |     |     | 270 |     |     |     |  |  |  |  |
| Asn | Lys | Tyr | His | Gly | Arg | Lys | Leu | Ser | Val | Gln | Gly | Phe | Lys | Glu | Ala |  |  |  |  |
| 275 |     |     | 280 |     |     | 285 |     |     |     |     |     |     |     |     |     |  |  |  |  |
| Leu | Phe | Gln | Phe | Phe | His | Asn | Gly | Arg | Tyr | Leu | Arg | Arg | Glu | Leu | Leu |  |  |  |  |
| 290 |     |     |     | 295 |     |     | 300 |     |     |     |     |     |     |     |     |  |  |  |  |
| Gly | Pro | Val | Leu | Lys | Lys | Leu | Thr | Glu | Leu | Lys | Ala | Val | Leu | Glu | Arg |  |  |  |  |
| 305 |     |     |     | 310 |     |     | 315 |     |     |     |     |     | 320 |     |     |  |  |  |  |
| Gln | Glu | Ser | Tyr | Arg | Phe | Tyr | Ser | Ser | Ser | Leu | Leu | Val | Ile | Tyr | Asp |  |  |  |  |
|     |     |     | 325 |     |     | 330 |     |     |     |     |     | 335 |     |     |     |  |  |  |  |
| Gly | Lys | Glu | Arg | Pro | Glu | Val | Val | Leu | Asp | Ser | Asp | Ala | Glu | Asp | Leu |  |  |  |  |
|     |     |     | 340 |     |     | 345 |     |     |     |     |     | 350 |     |     |     |  |  |  |  |
| Glu | Asp | Leu | Ser | Glu | Glu | Ser | Ala | Asp | Glu | Ser | Ala | Gly | Ala | Tyr | Ala |  |  |  |  |
| 355 |     |     | 360 |     |     | 365 |     |     |     |     |     |     |     |     |     |  |  |  |  |
| Tyr | Lys | Pro | Ile | Gly | Ala | Ser | Ser | Val | Asp | Val | Arg | Met | Ile | Asp | Phe |  |  |  |  |
| 370 |     |     |     | 375 |     |     | 380 |     |     |     |     |     |     |     |     |  |  |  |  |
| Ala | His | Thr | Thr | Cys | Arg | Leu | Tyr | Gly | Glu | Asp | Thr | Val | Val | His | Glu |  |  |  |  |
| 385 |     |     |     | 390 |     |     | 395 |     |     |     |     |     | 400 |     |     |  |  |  |  |
| Gly | Gln | Asp | Ala | Gly | Tyr | Ile | Phe | Gly | Leu | Gln | Ser | Leu | Ile | Asp | Ile |  |  |  |  |
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5501

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 568

&lt;210&gt; 5502

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5502

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Leu | Gly | Lys | Arg | Leu | His | Leu | Asn | Phe | Arg | Tyr | Phe | Thr | Cys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Ala | Gly | Thr | Lys | Pro | Cys | Ser | Ser | Glu | Val | Pro | Val | Gly | Ala | Gly |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Gly | Ala | Ala | Leu | Gln | Val | Leu | Ala | His | Ala | Gln | Gln | Ala | Pro | His | Ser |
|     |     | 35  |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Phe | Val | Thr | Thr | Lys | Gly | Thr | Val | Leu | Phe | Thr | Ala | Pro | Pro | Ala | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ala | Trp | Gln | Leu | Cys | Leu | Pro | Val | Leu | Tyr | Leu | Ile | Pro | Pro | Ala | Lys |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Ala | Arg | Gln | Gly | Pro | Ala | Leu | Lys | Glu | Ile | Ser | Leu | Pro | Asp | Pro |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| Trp | Thr | Trp | Lys | Trp | Arg | Leu | His | Val | Pro | Ala | Leu | Ala | Ala |     |     |
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&lt;210&gt; 5503

&lt;211&gt; 1679

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5503

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<400> 5504

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Gly Lys Arg Ser Tyr Ser Pro Ala Pro Gly Lys Gln Lys Lys Pro Asn
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 165          170          175
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Phe Gln Glu Asp His Tyr Pro Asp Ser Asp Lys Arg Arg Glu Ile Ala
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Ala Asp Leu Pro Phe Pro Leu Gly Pro Val His Thr Pro Gln Leu Met
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<400> 5505  
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<210> 5506  
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&lt;400&gt; 5506

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 Glu Glu Gly Phe Glu Phe Trp Ser Leu Asp Val Asn Gly Gly Asp Glu  
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 Trp Lys Val Glu Asp Leu Ser Arg Asp Gln Arg Lys Glu Phe Pro Asn  
 130 135 140  
 Asp Gln Val Lys Lys Tyr Phe Val Thr Ser Tyr Thr Cys Leu Lys  
 145 150 155 160  
 Ser Gln Val Val Asp Leu Lys Ala Glu Gly Tyr Trp Glu Glu Leu Leu  
 165 170 175  
 Asp Thr Phe Arg Pro Asp Ile Val Val Lys Asp Trp Phe Ala Ala Arg  
 180 185 190  
 Ala Asp Cys Gly Cys Thr Tyr Gln Leu Lys Val Gln Leu Leu Ser Ala  
 195 200 205  
 Asp Tyr Phe Val Leu Ala Ser Phe Glu Pro Asp Pro Ala Thr Ile Gln  
 210 215 220  
 Gln Lys Ser Asp Ala Lys Trp Arg Glu Val Ser His Thr Phe Ser Asn  
 225 230 235 240  
 Tyr Pro Pro Gly Val Arg Tyr Ile Trp Phe Gln His Gly Gly Val Asp  
 245 250 255  
 Thr His Tyr Trp Ala Gly Trp Tyr Gly Pro Arg Val Thr Asn Ser Ser  
 260 265 270  
 Ile Thr Ile Gly Pro Pro Leu Pro  
 275 280

&lt;210&gt; 5507

&lt;211&gt; 1658

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5507

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 aagcaatttc tcacctttga caaacaggtc cttcgattct atgcaatctg ggatgataca  
 180  
 gacagcatgt atggtgaatg tcggacctac atcattcatt actatcttat ggatgatagc  
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 300

aaccgccagc gtgtgccc aa agtttttggtg gaaaatgcaa agaacttccc tcagtgtgtg  
360  
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420  
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480  
cggattatca aagagaagtt tggaatcact gatttaccac gtattgatgt gagcaagcgg  
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gaaccacctc cagtaaaaca ggagttgcct ccttataacg gttttggact agtggaagat  
600  
tctgctcaga attgttttgc tctcattcca aaagctccaa aaaaagacgt tattaataatg  
660  
ctggtgaatg ataacaaggt gcttcggttat ttggtgtgac tggaatcccc catcccagaa  
720  
gacaaagacc gcagatttgt cttctcttac tttctagcta ccgacatgat cagtatcttt  
780  
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840  
gttaaacat actctacagt ggacaacct gtctactatg gcccagtgat cttcttcatt  
900  
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1140  
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1260  
tccttggtta aggagttaat caggatgtgc tctcatggag aaggcaaat taactactat  
1320  
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1380  
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1440  
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1560  
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1620  
aaaaataaaa tttttttgga gatgggaaaa aaaaaaaa  
1658

&lt;210&gt; 5508

&lt;211&gt; 448

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5508

Xaa Leu Glu Ser Gln Gly Ile Glu Leu Asn Pro Pro Glu Lys Met Ala

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Leu Asp Pro Tyr Thr Glu Leu Arg Lys Gln Pro Leu Arg Lys Tyr Val |     |     |     |
| 20  | 25  | 30  |     |
| Thr Pro Ser Asp Phe Asp Gln Leu Lys Gln Phe Leu Thr Phe Asp Lys |     |     |     |
| 35  | 40  | 45  |     |
| Gln Val Leu Arg Phe Tyr Ala Ile Trp Asp Asp Thr Asp Ser Met Tyr |     |     |     |
| 50  | 55  | 60  |     |
| Gly Glu Cys Arg Thr Tyr Ile Ile His Tyr Tyr Leu Met Asp Asp Thr |     |     |     |
| 65  | 70  | 75  | 80  |
| Val Glu Ile Arg Glu Val His Glu Arg Asn Asp Gly Arg Asp Pro Phe |     |     |     |
| 85  | 90  | 95  |     |
| Pro Leu Leu Met Asn Arg Gln Arg Val Pro Lys Val Leu Val Glu Asn |     |     |     |
| 100   | 105 | 110 |     |
| Ala Lys Asn Phe Pro Gln Cys Val Leu Glu Ile Ser Asp Gln Glu Val |     |     |     |
| 115   | 120 | 125 |     |
| Leu Glu Trp Tyr Thr Ala Lys Asp Phe Ile Val Gly Lys Ser Leu Thr |     |     |     |
| 130   | 135 | 140 |     |
| Ile Leu Gly Arg Thr Phe Phe Ile Tyr Asp Cys Asp Pro Phe Thr Arg |     |     |     |
| 145   | 150 | 155 | 160 |
| Arg Tyr Tyr Lys Glu Lys Phe Gly Ile Thr Asp Leu Pro Arg Ile Asp |     |     |     |
| 165   | 170 | 175 |     |
| Val Ser Lys Arg Glu Pro Pro Pro Val Lys Gln Glu Leu Pro Pro Tyr |     |     |     |
| 180   | 185 | 190 |     |
| Asn Gly Phe Gly Leu Val Glu Asp Ser Ala Gln Asn Cys Phe Ala Leu |     |     |     |
| 195   | 200 | 205 |     |
| Ile Pro Lys Ala Pro Lys Lys Asp Val Ile Lys Met Leu Val Asn Asp |     |     |     |
| 210   | 215 | 220 |     |
| Asn Lys Val Leu Arg Tyr Leu Ala Val Leu Glu Ser Pro Ile Pro Glu |     |     |     |
| 225   | 230 | 235 | 240 |
| Asp Lys Asp Arg Arg Phe Val Phe Ser Tyr Phe Leu Ala Thr Asp Met |     |     |     |
| 245   | 250 | 255 |     |
| Ile Ser Ile Phe Glu Pro Pro Val Arg Asn Ser Gly Ile Ile Gly Gly |     |     |     |
| 260   | 265 | 270 |     |
| Lys Tyr Leu Gly Arg Thr Lys Val Lys Pro Tyr Ser Thr Val Asp     |     |     |     |
| 275   | 280 | 285 |     |
| Asn Pro Val Tyr Tyr Gly Pro Ser Asp Phe Phe Ile Gly Ala Val Ile |     |     |     |
| 290   | 295 | 300 |     |
| Glu Val Phe Gly His Arg Phe Ile Ile Leu Asp Thr Asp Glu Tyr Val |     |     |     |
| 305   | 310 | 315 | 320 |
| Leu Lys Tyr Met Glu Ser Asn Ala Ala Gln Tyr Ser Pro Glu Ala Leu |     |     |     |
| 325   | 330 | 335 |     |
| Ala Ser Ile Gln Asn His Val Arg Lys Arg Glu Ala Pro Ala Pro Glu |     |     |     |
| 340   | 345 | 350 |     |
| Ala Glu Ser Lys Gln Thr Glu Lys Asp Pro Gly Val Gln Glu Leu Glu |     |     |     |
| 355   | 360 | 365 |     |
| Ala Leu Ile Asp Thr Ile Gln Lys Gln Leu Lys Asp His Ser Cys Lys |     |     |     |
| 370   | 375 | 380 |     |
| Asp Asn Ile Arg Glu Ala Phe Gln Ile Tyr Asp Lys Glu Ala Ser Gly |     |     |     |
| 385   | 390 | 395 | 400 |
| Tyr Val Asp Arg Asp Met Phe Phe Lys Ile Cys Glu Ser Leu Asn Val |     |     |     |
| 405   | 410 | 415 |     |
| Pro Val Asp Asp Ser Leu Val Lys Glu Leu Ile Arg Met Cys Ser His |     |     |     |
| 420   | 425 | 430 |     |
| Gly Glu Gly Lys Ile Asn Tyr Tyr Asn Phe Val Arg Ala Phe Ser Asn |     |     |     |

435

440

445

&lt;210&gt; 5509

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5509

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 60  
 aaggagagct gtatttgtgt ttcattggtt ctttaccaaa taattctagc atcggaattg  
 120  
 ctatgtgaga ggaagtaagt atacacagcg taagaggtgt gataaccaag tcatagaaga  
 180  
 aatgttttga gaacatggaa tcatgtgaac ttattatgtg gtaagtacag ataccaggg  
 240  
 ctgtcagtct caccatcctt ttctacacat gtggatgctt caggactcca gcctttgagg  
 300  
 atgtggcttt caacttcacc ctacaggaaa ggtagtcaat gtggagaagc cttcagccag  
 360  
 attccaggtc ataattctgaa taagaaaacg cctcctggag taaagccacc tgaaagccat  
 420  
 gtgtgtggag aggtcggcgt gggctatcca tccactgaaa ggcacatcag agatcgctt  
 480  
 ggacgcaaac cctgtgaata tcaggaatgt agacagaagg catatacatg taagccatgt  
 540  
 gggaatgcct ttcgttttca cactccttt cacatacacg aaaggcctca cagtggagaa  
 600  
 aacctctatg aatgttagga atttcagaaa acattcactt ccccccaaa cttcaaaga  
 660  
 tgtgaaaatg catagtggag atggacctta caaatgcaag gtgggtagga aaacctttga  
 720  
 ctctcccagt tcatttcgaa tacatggaag atctcattct ggagagaaac ccaatgtgtg  
 780  
 taggcactgt gggagcacct acaatcattt cagttttg  
 818

&lt;210&gt; 5510

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5510

Met Trp Leu Ser Thr Ser Pro Tyr Arg Lys Gly Ser Gln Cys Gly Glu  
 1 5 10 15  
 Ala Phe Ser Gln Ile Pro Gly His Asn Leu Asn Lys Lys Thr Pro Pro  
 20 25 30  
 Gly Val Lys Pro Pro Glu Ser His Val Cys Gly Glu Val Gly Val Gly  
 35 40 45  
 Tyr Pro Ser Thr Glu Arg His Ile Arg Asp Arg Leu Gly Arg Lys Pro  
 50 55 60  
 Cys Glu Tyr Gln Glu Cys Arg Gln Lys Ala Tyr Thr Cys Lys Pro Cys  
 65 70 75 80  
 Gly Asn Ala Phe Arg Phe His His Ser Phe His Ile His Glu Arg Pro

85 90 95  
 His Ser Gly Glu Asn Leu Tyr Glu Cys  
 100 105

<210> 5511  
 <211> 379  
 <212> DNA  
 <213> Homo sapiens

<400> 5511  
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 60  
 ccttccttgg gaaaagaggg catcgtctca atcgcatagt cacacacatc ccttaactca  
 120  
 ctctgctgag ttgctgagag tctgtgttcc tctctccact tataggatgg gtctctatct  
 180  
 tcttgagctt caagcccaa ggcagagacc tggctgctcc tcatgggagc ctcagggata  
 240  
 atgctgaatt cctctatggc agagatggga ggagaggctc cacgctgggc ctctcagcc  
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 tccatcaggg ctgaatcctg gtcggtgtca catgctgctt cggccccagc gtccccctcca  
 360  
 ggtcccggcg ccggccgcn  
 379

<210> 5512  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 5512  
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 1 5 10 15  
 Ile Glu Glu Phe Ser Ile Ile Pro Glu Ala Pro Met Arg Ser Ser Gln  
 20 25 30  
 Val Ser Ala Leu Gly Leu Glu Ala Gln Glu Asp Glu Asp Pro Ser Tyr  
 35 40 45  
 Lys Trp Arg Glu Glu His Arg Leu Ser Ala Thr Gln Gln Ser Glu Leu  
 50 55 60  
 Arg Asp Val Cys Asp Tyr Ala Ile Glu Thr Met Pro Ser Phe Pro Lys  
 65 70 75 80  
 Glu Gly Ser Ala Asp Val Glu Pro Asn Gln Glu Ser Leu Val Ala Glu  
 85 90 95  
 Ala Cys Asp Thr Pro  
 100

<210> 5513  
 <211> 837  
 <212> DNA  
 <213> Homo sapiens

<400> 5513  
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aaggccacag ccgcggccct gggcagtttc ccggcagggtg gcccggccga gctgtcgctg  
120  
agactcgggg agccattgac catcgtctct gaggatggag actggtggac ggtgctgtct  
180  
gaagtctcag gcagagagta taacatcccc agcgtccacg tggccaaagt ctcccatggg  
240  
tggctgtatg agggcctgag caggagagaaa gcagaggacc tgctgttgtt acctgggaac  
300  
cctggagggg cttctctcat ccgggagagc cagaccagga gaggtcttta ctctctgtca  
360  
gtccgcctca gccgcctgc atcctgggac cggatcagac actacaggat cactgcctt  
420  
gacaatggct ggctgtacat ctcaccgcgc ctcaccttc cctcactcca ggcctgggtg  
480  
gaccattact ctgagctggc ggatgacatc tgctgcctac tcaaggagcc ctgtgtcctg  
540  
cagagggtg gcccgtccc tggcaaggat ataccctac ctgtgactgt gcagaggaca  
600  
ccactcaact ggaaagagct ggacagctcc ctctgtttt ctgaagctgc cacaggggag  
660  
gagtctcttc tcagtggagg tctccgggag tccctcagct tctacatcag cctgaatgac  
720  
gaggctgtct ctttgatga tgcctaggcc caaaggagag gccaaaaggg aaaccaaggc  
780  
tgcacaccta gaacccaat tcagcctcct gggcacccca gaggcaaggc tgtgcac  
837

<210> 5514

<211> 248

<212> PRT

<213> Homo sapiens

<400> 5514

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ser | Leu | Ser | Ser | Ser | Val | Gln | Gly | Gln | Gly | Pro | Val | Thr | Met | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Glu | Arg | Ser | Lys | Ala | Thr | Ala | Ala | Ala | Leu | Gly | Ser | Phe | Pro | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Gly | Pro | Ala | Glu | Leu | Ser | Leu | Arg | Leu | Gly | Glu | Pro | Leu | Thr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Ser | Glu | Asp | Gly | Asp | Trp | Trp | Thr | Val | Leu | Ser | Glu | Val | Ser | Gly |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Glu | Tyr | Asn | Ile | Pro | Ser | Val | His | Val | Ala | Lys | Val | Ser | His | Gly |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Trp | Leu | Tyr | Glu | Gly | Leu | Ser | Arg | Glu | Lys | Ala | Glu | Asp | Leu | Leu | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Leu | Pro | Gly | Asn | Pro | Gly | Gly | Ala | Phe | Leu | Ile | Arg | Glu | Ser | Gln | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Arg | Gly | Ser | Tyr | Ser | Leu | Ser | Val | Arg | Leu | Ser | Arg | Pro | Ala | Ser |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Trp | Asp | Arg | Ile | Arg | His | Tyr | Arg | Ile | His | Cys | Leu | Asp | Asn | Gly | Trp |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Tyr | Ile | Ser | Pro | Arg | Leu | Thr | Phe | Pro | Ser | Leu | Gln | Ala | Leu | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp | His | Tyr | Ser | Glu | Leu | Ala | Asp | Asp | Ile | Cys | Cys | Leu | Leu | Lys | Glu |

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          165              170              175
Pro Cys Val Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro
          180              185              190
Leu Pro Val Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp
          195              200              205
Ser Ser Leu Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu
          210              215              220
Ser Glu Gly Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp
225              230              235              240
Glu Ala Val Ser Leu Asp Asp Ala
          245

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&lt;210&gt; 5515

&lt;211&gt; 420

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5515

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gtttgtacca accccctctc catccttgaa gcagtcattg cccactgcaa gaaaatgcaa
60
gaaaggatgt ccgcacagct ggctgctgct gagagcagac aaaagaagct ggaaatggag
120
aagcttcagc tacaagccct tgagcaagag cacaagaagc tggctgcccg ccttgaggaa
180
gagcgtggca agaacaagca ggtggtcctg atgctggtca aagagtgcaa gcagctctca
240
agcaaagtca tagaggaggc ccagaagctc gaagacgtaa tggccaaaact ggcttcttct
300
ctttgtcacc agcacctgct tcatagtctc tctggagtgc caggaacggg tcatatagat
360
taaattctccc ataccgttcc tggataaata cctccttcct gcgagcccgc agggcctcga
420

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&lt;210&gt; 5516

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5516

```

Val Cys Thr Asn Pro Leu Ser Ile Leu Glu Ala Val Met Ala His Cys
1          5          10          15
Lys Lys Met Gln Glu Arg Met Ser Ala Gln Leu Ala Ala Glu Ser
20          25          30
Arg Gln Lys Lys Leu Glu Met Glu Lys Leu Gln Leu Gln Ala Leu Glu
35          40          45
Gln Glu His Lys Lys Leu Ala Ala Arg Leu Glu Glu Glu Arg Gly Lys
50          55          60
Asn Lys Gln Val Val Leu Met Leu Val Lys Glu Cys Lys Gln Leu Ser
65          70          75          80
Ser Lys Val Ile Glu Glu Ala Gln Lys Leu Glu Asp Val Met Ala Lys
85          90          95
Leu Ala Ser Ser Leu Cys His Gln His Leu Leu His Ser Leu Ser Gly
100         105         110
Val Pro Gly Thr Gly His Ile Asp

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115

120

<210> 5517  
 <211> 804  
 <212> DNA  
 <213> Homo sapiens

<400> 5517  
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 120  
 atccgtgccca gcagtctcca ggttcagaag caattcaaga ccctgatgat agctctccag  
 180  
 caaccaacac atgggtgacat ggtgattgtg ccaacttggt gctcagttat atgcaggggc  
 240  
 agtgattggt ttaagtgaag accatgggtg agatcatttg tctttggtct aatagaattt  
 300  
 gagctagtag aatttgagtc tccagggaaa gagctacttg accaaattaa actagtagca  
 360  
 ggtagagcat gaatgcacgc atattatacc atcaagatgt tcttagagca gtgtatggat  
 420  
 ggatcgattg tactgccatc agttgtgact gacgttggtat tcaaggagaa agagaaactt  
 480  
 gtttagaaaag cactttgaaa gttttttgag tacgggggtg ccctgtatca ccccgttatg  
 540  
 gttgaacttt ctccttcaaa attaccagac ttggcagcag tggcaaatta ttgggctaaa  
 600  
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 660  
 atacttcac tcattcagat gggtgcaccc tgccaggcat ccagtgggac tgggaatatg  
 720  
 gacacttgaa cattaacat cctgaagaat ttggaatga caggttacaa gtgaacataa  
 780  
 tcagttctct atattaaaaa aaaa  
 804

<210> 5518  
 <211> 85  
 <212> PRT  
 <213> Homo sapiens

<400> 5518  
 Xaa Val Trp Pro Lys His Lys Gly Lys Asp Pro Gln Phe Thr Phe Leu  
 1 5 10 15  
 Glu Leu Ser Ser Val Leu Tyr Cys Cys Asp Leu Leu Ile Gly Ile Gly  
 20 25 30  
 Ile Val Val Gly Ser Ser Asp Arg Ile Arg Ala Ser Ser Leu Gln Val  
 35 40 45  
 Gln Lys Gln Phe Lys Thr Leu Met Ile Ala Leu Gln Gln Pro Thr His  
 50 55 60  
 Gly Asp Met Val Ile Val Pro Thr Cys Cys Ser Val Ile Cys Arg Ala  
 65 70 75 80  
 Ser Asp Trp Phe Lys

85

<210> 5519  
 <211> 401  
 <212> DNA  
 <213> Homo sapiens

<400> 5519  
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 tccttcgcat aacttgtaga ggggtaggta gcataaaaga cagccggtct caagaagcaa  
 120  
 ccatgcgcct cactacttac catgttcctg cgggcattcc cctcccgaag ggagtctctg  
 180  
 aaaacaaaca cacacagaag ttggcgctgg gcaccacatt ctctcttga cctaaccatc  
 240  
 aggaatttgc tgtgccatct gttcataaaa cttagccagg cccagaaagc ttgtcccaac  
 300  
 cacatgctaa gagccaagca gatggaacag aagctcccc aagctgctgg ctcccactat  
 360  
 ggctgggatg aagcaagaac ctgggcccac acaggctgca a  
 401

<210> 5520  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 5520  
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 Trp His Ser Lys Phe Leu Met Val Arg Ser Arg Gly Glu Cys Gly Ala  
 20 25 30  
 Gln Arg Gln Leu Leu Cys Val Phe Val Phe Arg Asp Ser Leu Arg Glu  
 35 40 45  
 Gly Asn Ala Arg Arg Asn Met Val Ser Ser Glu Ala His Gly Cys Phe  
 50 55 60  
 Leu Arg Pro Ala Val Phe Tyr Ala Thr Tyr Pro Cys Thr Ser Tyr Ala  
 65 70 75 80  
 Lys Glu Thr Lys Pro Ser Ala Cys Leu Phe Pro Leu Leu Ile Ile Gly  
 85 90 95  
 Lys Trp Met Leu Trp  
 100

<210> 5521  
 <211> 2524  
 <212> DNA  
 <213> Homo sapiens

<400> 5521  
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 120

acagacgcat cgtttctttt ttaatactcc ctaagaaagg gaataacctt caagctggcg  
180  
ggagcaatgg ttcacataaa gaaaggcgag ctgacccagg aggagaagga gctactggaa  
240  
gtcatcggga aagggtactgt ccaagaagct ggaacattat tatccagcaa gaatgttcgt  
300  
gtcaactggt tggacgagaa tggaaatgact cctctaattgc atgcagcata taaaggaaaa  
360  
ctcgatatgt gcaaattact actgcgacat ggagccgatg taaattgtca tcagcatgaa  
420  
catggataca cagccctcat gtttgctgca ctttctggta ataaagacat cacatgggta  
480  
atgttagagg ctggtgctga gacagatggt gtcaactctg tgggaagaac agcagctcag  
540  
atggcagcct ttgtgggtca acatgattgt gtgaccataa tcaacaattt ctttctcga  
600  
gagagactgg attattacac taagccccag ggactggata aagagccaaa actgccccca  
660  
aagtggcag gcccgctgca caaaattatc accacaacga atcttcatcc tgtcaagatc  
720  
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<213> Homo sapiens

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| Leu | Glu | Val | Ile | Gly | Lys | Gly | Thr | Val | Gln | Glu | Ala | Gly | Thr | Leu | Leu |
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| Leu | Leu | Arg | His | Gly | Ala | Asp | Val | Asn | Cys | His | Gln | His | Glu | His | Gly |
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| Tyr | Thr | Ala | Leu | Met | Phe | Ala | Ala | Leu | Ser | Gly | Asn | Lys | Asp | Ile | Thr |
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| Trp | Val | Met | Leu | Glu | Ala | Gly | Ala | Glu | Thr | Asp | Val | Val | Asn | Ser | Val |
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| Val | Thr | Ile | Ile | Asn | Asn | Phe | Phe | Pro | Arg | Glu | Arg | Leu | Asp | Tyr | Tyr |
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| Thr | Lys | Pro | Gln | Gly | Leu | Asp | Lys | Glu | Pro | Lys | Leu | Pro | Pro | Lys | Leu |

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| Lys | Ile | Val | Met | Leu | Val | Asn | Glu | Asn | Pro | Leu | Leu | Thr | Glu | Glu | Ala |
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| Met | Lys | Gln | Arg | Asp | Met | Asn | Glu | Val | Leu | Ala | Met | Lys | Met | His | Tyr |
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| Asn | Lys | Leu | Asp | Thr | Leu | Ile | Lys | Ser | Leu | Leu | Lys | Gly | Arg | Ala | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Asp | Gly | Phe | Pro | Val | Tyr | Gln | Glu | Lys | Ile | Ile | Arg | Glu | Ser | Ile | Arg |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Lys | Phe | Pro | Tyr | Cys | Glu | Ala | Thr | Leu | Leu | Gln | Gln | Leu | Val | Arg | Ser |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Ile | Ala | Pro | Val | Glu | Ile | Gly | Ser | Asp | Pro | Thr | Ala | Phe | Ser | Val | Leu |
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| Thr | Thr | Cys | Gly | Glu | Lys | Gly | Ala | Ser | Lys | Arg | Cys | Ser | Val | Cys | Lys |
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| Met | Val | Ile | Tyr | Cys | Asp | Gln | Thr | Cys | Gln | Lys | Thr | His | Trp | Phe | Thr |
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| His | Lys | Lys | Ile | Cys | Lys | Asn | Leu | Lys | Asp | Ile | Tyr | Glu | Lys | Gln | Gln |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
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| Leu | Gln | Arg | Lys | Leu | Ala | Asp | Ser | Ser | His | Ser | Glu | Gln | Gln | Asp | Arg |
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| Asn | Arg | Val | Ser | Glu | Glu | Leu | Ile | Met | Val | Val | Gln | Glu | Met | Lys | Lys |
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| Tyr | Phe | Pro | Ser | Glu | Arg | Arg | Asn | Lys | Pro | Ser | Thr | Leu | Asp | Ala | Leu |
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| Asn | Tyr | Ala | Leu | Arg | Cys | Val | His | Ser | Val | Gln | Ala | Asn | Ser | Glu | Phe |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 85  |     |     |     |     |     |     |     |     |     | 90  |     |     |     | 95  |     |  |  |
| Phe | Gln | Ile | Leu | Ser | Gln | Asn | Gly | Ala | Pro | Gln | Ala | Asp | Val | Ser | Met |  |  |
| 100 |     |     |     | 105 |     |     |     | 110 |     |     |     |     |     |     |     |  |  |
| Tyr | Ser | Leu | Glu | Glu | Leu | Ala | Thr | Ile | Ala | Ser | Glu | His | Thr | Ser | Lys |  |  |
| 115 |     |     |     | 120 |     |     |     | 125 |     |     |     |     |     |     |     |  |  |
| Asn | Thr | Asp | Thr | Phe | Val | Ala | Val | Phe | Ser | Phe | Leu | Ser | Gly | Arg | Leu |  |  |
| 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |     |  |  |
| Val | His | Ile | Ser | Glu | Gln | Ala | Ala | Leu | Ile | Leu | Asn | Arg | Lys | Lys | Asp |  |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |     |     |  |  |
| Val | Leu | Ala | Ser | Ser | His | Phe | Val | Asp | Leu | Leu | Ala | Pro | Gln | Asp | Met |  |  |
| 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |     |     |     |     |  |  |
| Arg | Val | Phe | Tyr | Ala | His | Thr | Ala | Arg | Ala | Gln | Leu | Pro | Phe | Trp | Asn |  |  |
| 180 |     |     |     | 185 |     |     |     | 190 |     |     |     |     |     |     |     |  |  |
| Asn | Trp | Thr | Gln | Arg | Ala | Ala | Arg | Tyr | Glu | Cys | Ala | Pro | Val | Lys | Pro |  |  |
| 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |     |     |     |     |  |  |
| Phe | Phe | Cys | Arg | Ile | Arg | Gly | Gly | Glu | Asp | Arg | Lys | Gln | Glu | Lys | Cys |  |  |
| 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |     |     |  |  |
| His | Ser | Pro | Phe | Arg | Ile | Ile | Pro | Tyr | Leu | Ile | His | Val | His | His | Pro |  |  |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     | 240 |     |     |     |  |  |
| Ala | Gln | Pro | Glu | Leu | Glu | Ser | Glu | Pro | Cys | Cys | Leu | Thr | Val | Val | Glu |  |  |
| 245 |     |     |     | 250 |     |     |     | 255 |     |     |     |     |     |     |     |  |  |
| Lys | Ile | His | Ser | Gly | Tyr | Glu | Ala | Pro | Arg | Ile | Pro | Val | Asn | Lys | Arg |  |  |
| 260 |     |     |     | 265 |     |     |     | 270 |     |     |     |     |     |     |     |  |  |
| Ile | Phe | Thr | Thr | Thr | His | Thr | Pro | Gly | Cys | Val | Phe | Leu | Glu | Val | Asp |  |  |
| 275 |     |     |     | 280 |     |     |     | 285 |     |     |     |     |     |     |     |  |  |
| Glu | Lys | Ala | Val | Pro | Leu | Leu | Gly | Tyr | Leu | Pro | Gln | Asp | Leu | Ile | Gly |  |  |
| 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |     |     |  |  |
| Thr | Ser | Ile | Leu | Ser | Tyr | Leu | His | Pro | Glu | Asp | Arg | Ser | Leu | Met | Val |  |  |
| 305 |     |     |     | 310 |     |     |     | 315 |     |     |     | 320 |     |     |     |  |  |
| Ala | Ile | His | Gln | Lys | Gly | His | Pro | Pro | Phe | Glu | His | Ser | Pro | Ile | Arg |  |  |
| 325 |     |     |     | 330 |     |     |     | 335 |     |     |     |     |     |     |     |  |  |
| Phe | Cys | Thr | Gln | Asn | Gly | Asp | Tyr | Ile | Ile | Leu | Asp | Ser | Ser | Trp | Ser |  |  |
| 340 |     |     |     | 345 |     |     |     | 350 |     |     |     |     |     |     |     |  |  |
| Ser | Phe | Val | Asn | Pro | Trp | Ser | Arg | Lys | Ile | Ser | Phe | Ile | Ile | Gly | Arg |  |  |
| 355 |     |     |     | 360 |     |     |     | 365 |     |     |     |     |     |     |     |  |  |
| His | Lys | Val | Arg | Thr | Ser | Pro | Leu | Asn | Glu | Asp | Val | Phe | Ala | Thr | Lys |  |  |
| 370 |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |     |     |  |  |
| Ile | Lys | Lys | Met | Asn | Asp | Asn | Asp | Lys | Asp | Ile | Thr | Glu | Leu | Gln | Glu |  |  |
| 385 |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |     |     |     |  |  |
| Gln | Ile | Tyr | Lys | Leu | Leu | Leu | Gln | Pro | Val | His | Val | Ser | Val | Ser | Ser |  |  |
| 405 |     |     |     | 410 |     |     |     | 415 |     |     |     |     |     |     |     |  |  |
| Gly | Tyr | Gly | Ser | Leu | Gly | Ser | Ser | Gly | Ser | Gln | Glu | Gln | Leu | Val | Ser |  |  |
| 420 |     |     |     | 425 |     |     |     | 430 |     |     |     |     |     |     |     |  |  |
| Ile | Ala | Ser | Ser | Ser | Glu | Ala | Ser | Gly | His | Arg | Val | Glu | Glu | Thr | Lys |  |  |
| 435 |     |     |     | 440 |     |     |     | 445 |     |     |     |     |     |     |     |  |  |
| Ala | Glu | Gln | Met | Thr | Leu | Gln | Gln | Val | Tyr | Ala | Ser | Val | Asn | Lys | Ile |  |  |
| 450 |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |     |     |  |  |
| Lys | Asn | Leu | Gly | Gln | Gln | Leu | Tyr | Ile | Glu | Ser | Met | Thr | Lys | Ser | Ser |  |  |
| 465 |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |     |     |     |  |  |
| Phe | Lys | Pro | Val | Thr | Gly | Thr | Arg | Thr | Glu | Pro | Asn | Gly | Gly | Gly | Glu |  |  |
| 485 |     |     |     | 490 |     |     |     | 495 |     |     |     |     |     |     |     |  |  |
| Cys | Lys | Thr | Phe | Ser | Phe | His | Gln | Thr | Leu | Lys | Asn | Asn | Ser | Val |     |  |  |
| 500 |     |     |     | 505 |     |     |     | 510 |     |     |     |     |     |     |     |  |  |

Tyr Thr Glu Pro Cys Glu Asp Leu Arg Asn Asp Glu His Ser Pro Ser  
 515 520 525  
 Tyr Gln Gln Ile Asn Cys Ile Asp Ser Val Ile Arg Tyr Leu Lys Ser  
 530 535 540  
 Tyr Asn Ile Pro Ala Leu Lys Arg Lys Cys Ile Ser Cys Thr Asn Thr  
 545 550 555 560  
 Thr Ser Ser Ser Ser Glu Glu Asp Lys Gln Asn His Lys Ala Asp Asp  
 565 570 575  
 Val Gln Ala Leu Gln Gly Asn Lys Asn Ala Pro Gln Lys Met Pro Thr  
 580 585 590  
 Asn Gly Arg Ser Ile Asp Thr Gly Gly Gly Ala Pro Gln Ile Leu Ser  
 595 600 605  
 Thr Ala Met Leu Ser Leu Gly Ser Gly Ile Ser Gln Cys Gly Tyr Ser  
 610 615 620  
 Ser Thr Ile Val His Val Pro Pro Glu Thr Ala Arg Asp Ala Thr  
 625 630 635 640  
 Leu Phe Cys Glu Pro Trp Thr Leu Asn Met Gln Pro Ala Pro Leu Thr  
 645 650 655  
 Ser Glu Glu Phe Lys His Val Gly Leu Thr Ala Ala Val Leu Ser Ala  
 660 665 670  
 His Thr Gln Lys Glu Glu Gln Asn Tyr Val Asp Lys Phe Arg Glu Lys  
 675 680 685  
 Ile Leu Ser Ser Pro Tyr Ser Ser Tyr Leu Gln Gln Glu Ser Arg Ser  
 690 695 700  
 Lys Ala Lys Tyr Ser Tyr Phe Gln Gly Asp Ser Thr Ser Lys Gln Thr  
 705 710 715 720  
 Arg Ser Ala Gly Cys Arg Lys Gly Lys His Lys Arg Lys Lys Leu Pro  
 725 730 735  
 Glu Pro Pro Asp Ser Ser Ser Ser Asn Thr Gly Ser Gly Pro Arg Arg  
 740 745 750  
 Gly Ala His Gln Asn Ala Gln Pro Cys Cys Pro Ser Ala Ala Ser Ser  
 755 760 765  
 Pro His Thr Ser Ser Pro Thr Phe Pro Pro Ala Ala Met Val Pro Ser  
 770 775 780  
 Gln Ala Pro Tyr Leu Val Pro Ala Phe Pro Leu Pro Ala Ala Thr Ser  
 785 790 795 800  
 Pro Gly Arg Glu Tyr Ala Ala Pro Gly Thr Ala Pro Glu Gly Leu His  
 805 810 815  
 Gly Pro Pro Leu Ser Glu Gly Leu Gln Pro Tyr Pro Ala Phe Pro Phe  
 820 825 830  
 Pro Tyr Leu Asp Thr Phe Met Thr Val Phe Leu Pro Asp Pro Pro Val  
 835 840 845  
 Cys Pro Leu Leu Ser Pro Ser Phe Leu Pro Cys Pro Phe Leu Gly Ala  
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 Thr Ala Ser Ser Ala Ile Ser Pro Ser Met Ser Ser Ala Met Ser Pro  
 865 870 875 880  
 Thr Leu Asp Pro Pro Pro Ser Val Thr Ser Gln Arg Arg Glu Glu Glu  
 885 890 895  
 Lys Trp Glu Ala Gln Ser Glu Gly His Pro Phe Ile Thr Ser Arg Ser  
 900 905 910  
 Ser Ser Pro Leu Gln Leu Asn Leu Leu Gln Glu Glu Met Pro Arg Pro  
 915 920 925  
 Ser Glu Ser Pro Asp Gln Met Arg Arg Asn Thr Cys Pro Gln Thr Glu  
 930 935 940

Tyr Gln Cys Val Thr Gly Asn Asn Gly Ser Glu Ser Ser Pro Ala Thr  
 945 950 955 960  
 Thr Gly Ala Leu Ser Thr Gly Ser Pro Pro Arg Glu Asn Pro Ser His  
 965 970 975  
 Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys Asn Pro  
 980 985 990  
 Ser His Pro Thr Ala Ser Ala Leu Ser Thr Gly Ser Pro Pro Met Lys  
 995 1000 1005  
 Asn Pro Ser His Pro Thr Ala Ser Thr Leu Ser Met Gly Leu Pro Pro  
 1010 1015 1020  
 Ser Arg Thr Pro Ser His Pro Thr Ala Thr Val Leu Ser Thr Gly Ser  
 1025 1030 1035 1040  
 Pro Pro Ser Glu Ser Pro Ser Arg Thr Gly Ser Ala Ala Ser Gly Ser  
 1045 1050 1055  
 Ser Asp Ser Ser Ile Tyr Leu Thr Ser Ser Val Tyr Ser Ser Lys Ile  
 1060 1065 1070  
 Ser Gln Asn Gly Gln Gln Ser Gln Asp Val Gln Lys Lys Glu Thr Phe  
 1075 1080 1085  
 Pro Asn Val Ala Glu Glu Pro Ile Trp Arg Met Ile Arg Gln Thr Pro  
 1090 1095 1100  
 Glu Arg Ile Leu Met Thr Tyr Gln Val Pro Glu Arg Val Lys Glu Val  
 1105 1110 1115 1120  
 Val Leu Lys Glu Asp Leu Glu Lys Leu Glu Ser Met Arg Gln Gln Gln  
 1125 1130 1135  
 Pro Gln Phe Ser His Gly Gln Lys Glu Glu Leu Ala Lys Val Tyr Asn  
 1140 1145 1150  
 Trp Ile Gln Ser Gln Thr Val Thr Gln Glu Ile Asp Ile Gln Ala Cys  
 1155 1160 1165  
 Val Thr Cys Glu Asn Glu Asp Ser Ala Asp Gly Ala Ala Thr Ser Cys  
 1170 1175 1180  
 Gly Gln Val Leu Val Glu Asp Ser Cys  
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&lt;210&gt; 5525

&lt;211&gt; 761

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5525

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 120  
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 240  
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 300  
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 360  
 ctggagaact ttacacttct ggcctctctg ggacttgcgt cttccaagac ccatgaata  
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<211> 102

<212> PRT

<213> Homo sapiens

<400> 5526

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Phe | Glu | Asp | Val | Ala | Val | Tyr | Phe | Ser | Gln | Glu | Glu | Trp | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Leu | Asp | Asp | Ala | Gln | Arg | Leu | Leu | Tyr | Arg | Asn | Val | Met | Leu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Phe | Thr | Leu | Leu | Ala | Ser | Leu | Gly | Leu | Ala | Ser | Ser | Lys | Thr | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Ile | Thr | Gln | Leu | Glu | Ser | Trp | Glu | Glu | Pro | Phe | Met | Pro | Ala | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Val | Val | Thr | Ser | Ala | Ile | Pro | Arg | Glu | Thr | Leu | Arg | Met | Ala | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Arg | Glu | Leu | Ala | Ile | Glu | His | His | Ser | Ser | Lys | Tyr | Ala | His | Trp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Gln | Asp | Glu | Asn | Ser |     |     |     |     |     |     |     |     |     |     |
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<210> 5527

<211> 728

<212> DNA

<213> Homo sapiens

<400> 5527

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 180  
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 240  
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 300  
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 360  
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 420

gttgtgttcc cgagactaca ggataaaaaa tactatgata agaaatacca agtattcctg  
 480  
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 <212> PRT  
 <213> Homo sapiens

<400> 5528  
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 Val Thr Gly Leu Lys Leu Ser Gln Asp Leu Asp Asp Leu Ala Ile Leu  
 35 40 45  
 Tyr Leu Ala Thr Val Gln Ala Ile Ala Leu Gly Thr Arg Phe Ile Ile  
 50 55 60  
 Glu Ala Met Glu Ala Ala Gly His Ser Ile Ser Thr Leu Phe Leu Cys  
 65 70 75 80  
 Gly Gly Leu Ser Lys Asn Pro Leu Phe Val Gln Met His Ala Asp Ile  
 85 90 95  
 Thr Gly Met Pro Val Val Leu Ser Gln Glu Val Glu Ser Val Leu Val  
 100 105 110  
 Gly Ala Ala Val Leu Gly Ala Cys Ala Ser Gly Asp Phe Ala Ser Val  
 115 120 125  
 Gln Glu Ala Met Ala Lys Met Ser Lys Val Gly Lys Val Val Phe Pro  
 130 135 140  
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<210> 5529  
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 <212> DNA  
 <213> Homo sapiens

<400> 5529  
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 120  
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 180

cttaggagag acgagcagcc ttcagggagc gtggagacag gttttgaaga caagattccc  
240  
aaaaggagat tctctgagat gcaaaatgaa agacgagaac aggcacagcg gactgtttta  
300  
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360  
cctattaata atcattttctt ctatgaaagc tttggctctt atgctgtcgt agaattttgc  
420  
caaaaggaaa gcatagggtc actgcagaat gggactcata ctccaagcac ggccatggag  
480  
actgcaattc cattcagatc acgtttcttc aatctgaagt tgaaaaacca gacttctgaa  
540  
cggtcacgag tacggtcaag taatcagttg ccacgttcaa acaagcagct ttttgaatta  
600  
ctttgttatg cagaaagtat agacgatcag ctgaacactc tcttgaagga gttccagcta  
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acagaggaga acactaagct ccgatatctc acctgttctc ttattgaaga catggccgcc  
720  
gcgtattttc cagactgcat agtcagaccc tttggctcct cagtcaacac ttttgggaag  
780  
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gcaactcaga agatcctgtc tgtgttagga gagtgccttg accactttgg ccttggctgt  
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1020  
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1140  
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1260  
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acatttggtc gtgacttgag tagaattaaa ccttcacaga acacagaaac attagaatta  
1380  
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1440  
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1620  
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1680  
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1740  
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1800

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 1860  
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 1920  
 cacttttcat gatctttctca ttggccccct taacctgggc tgaagttctg ggatgttttc  
 1980  
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 2100  
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 2160  
 acataagcca caaggaatgg gtgaaagatt attgtaatgt gctttaacta aataggtaaa  
 2220  
 tatactaaac aaatgctaaa actcagtttt aggatgaaac cattgttgat atccacatca  
 2280  
 gtccctgttt agaaaacatt taaaatgact tttagttatg tacagtacgt tggcaatgaa  
 2340  
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 aagttctctt attcacatat aaattaaagt gggttgggtac tgatatcaaa aaatgtttat  
 2460  
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 2520  
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 2580  
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 2602

&lt;210&gt; 5530

&lt;211&gt; 603

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5530

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | His | Leu | Leu | Trp | Gly | Gly | Lys | Gly | His | Lys | Val | Phe | Phe | Phe |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe | Phe | Phe | Leu | Ala | Met | Ala | Val | Pro | Gly | Val | Gly | Leu | Leu | Thr | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Leu | Asn | Leu | Cys | Ala | Arg | Arg | Arg | Thr | Arg | Val | Gln | Arg | Pro | Ile | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Arg | Leu | Leu | Ser | Cys | Pro | Gly | Thr | Val | Ala | Lys | Asp | Leu | Arg | Arg | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Gln | Pro | Ser | Gly | Ser | Val | Glu | Thr | Gly | Phe | Glu | Asp | Lys | Ile | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Arg | Arg | Phe | Ser | Glu | Met | Gln | Asn | Glu | Arg | Arg | Glu | Gln | Ala | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Thr | Val | Leu | Ile | His | Cys | Pro | Glu | Lys | Ile | Ser | Glu | Asn | Lys | Phe |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Leu | Lys | Tyr | Leu | Ser | Gln | Phe | Gly | Pro | Ile | Asn | Asn | His | Phe | Phe | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Ser | Phe | Gly | Leu | Tyr | Ala | Val | Val | Glu | Phe | Cys | Gln | Lys | Glu | Ser |
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595                      600

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| 60          |            |             |             |             |             |  |
| gtaacggagg  | ccttggaag  | agactctgcg  | tcaggtcacc  | cagcagagat  | cagcaatcct  |  |
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| tggctcactg  | aggaggtttg | gatttgccctc | aaagggcact  | gcaaaaattg  | aacagaggaa  |  |
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| 240         |            |             |             |             |             |  |
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| 300         |            |             |             |             |             |  |
| gcagaggatt  | ccaccgcagc | catgagcagt  | gactcggccg  | ccgggtccctc | ggccaagggtg |  |
| 360         |            |             |             |             |             |  |
| cccgagggcg  | tggcgggcgc | gccaacgag   | gcagcactgc  | tggcgctgat  | ggagcgcacg  |  |
| 420         |            |             |             |             |             |  |
| ggctacagca  | tggtgcaaga | gaacgggcag  | cgcaagtacg  | gcggcccacc  | gcccggctgg  |  |
| 480         |            |             |             |             |             |  |
| gagggcccg   | acccgcagcg | tggctgcgag  | gtcttcgtgg  | gcaagatccc  | gcgcgacgtg  |  |
| 540         |            |             |             |             |             |  |
| tacgaggacg  | agctggtgcc | cgtgttcgag  | gccgtgggccc | gcattctacga | gctgcgcctc  |  |
| 600         |            |             |             |             |             |  |
| atgatggact  | ttgacggcaa | gaaccgcggc  | tacgccttcg  | tcatgtactg  | ccacaagcac  |  |
| 660         |            |             |             |             |             |  |
| gagggccaagc | gcgcagtgcg | tgagctcaac  | aactacgaga  | tcgccccggg  | ccgcctgctc  |  |
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| gtctacgcca  | gcgcggccga | caagatgaag  | aaccgcggct  | tcgccttcgt  | ggagtacgag  |  |
| 900         |            |             |             |             |             |  |
| agccaccgcg  | cggctgccat | ggctcgccgc  | aagctcatgc  | ctggccgcac  | ccagctgtgg  |  |
| 960         |            |             |             |             |             |  |
| ggccaccaga  | tcgccgtgga | ctgggcccag  | cctgagatcg  | acgtggacga  | ggacgtgatg  |  |
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| gagaccgtga  | agatcctcta | cgtgcgcaac  | ctcatgatcg  | agaccaccga  | ggacaccatc  |  |
| 1080        |            |             |             |             |             |  |
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| 1140        |            |             |             |             |             |  |
| tacgccttcg  | tgcacttcac | cagccgcgag  | gatgccgtgc  | atgccatgaa  | caacctcaac  |  |
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| ggcactgagc  | tggagggctc | gtgcctggag  | gtcacgctgg  | ccaagcccgt  | ggacaaggag  |  |
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| Met | Thr | Ala | Glu | Asp | Ser | Thr | Ala | Ala | Met | Ser | Ser | Asp | Ser | Ala | Ala |
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| Gly | Ser | Ser | Ala | Lys | Val | Pro | Glu | Gly | Val | Ala | Gly | Ala | Pro | Asn | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ala | Leu | Leu | Ala | Leu | Met | Glu | Arg | Thr | Gly | Tyr | Ser | Met | Val | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Asn | Gly | Gln | Arg | Lys | Tyr | Gly | Gly | Pro | Pro | Pro | Gly | Trp | Glu | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | His | Pro | Gln | Arg | Gly | Cys | Glu | Val | Phe | Val | Gly | Lys | Ile | Pro | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Val | Tyr | Glu | Asp | Glu | Leu | Val | Pro | Val | Phe | Glu | Ala | Val | Gly | Arg |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Tyr | Glu | Leu | Arg | Leu | Met | Met | Asp | Phe | Asp | Gly | Lys | Asn | Arg | Gly |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Ala | Phe | Val | Met | Tyr | Cys | His | Lys | His | Glu | Ala | Lys | Arg | Ala | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Arg | Glu | Leu | Asn | Asn | Tyr | Glu | Ile | Arg | Pro | Gly | Arg | Leu | Leu | Gly | Val |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Cys | Ser | Val | Asp | Asn | Cys | Arg | Leu | Phe | Ile | Gly | Gly | Ile | Pro | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Met | Lys | Lys | Arg | Glu | Glu | Ile | Leu | Glu | Glu | Ile | Ala | Lys | Val | Thr | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Val | Leu | Asp | Val | Ile | Val | Tyr | Ala | Ser | Ala | Ala | Asp | Lys | Met | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asn | Arg | Gly | Phe | Ala | Phe | Val | Glu | Tyr | Glu | Ser | His | Arg | Ala | Ala | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Met | Ala | Arg | Arg | Lys | Leu | Met | Pro | Gly | Arg | Ile | Gln | Leu | Trp | Gly | His |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Gln | Ile | Ala | Val | Asp | Trp | Ala | Glu | Pro | Glu | Ile | Asp | Val | Asp | Glu | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Val | Met | Glu | Thr | Val | Lys | Ile | Leu | Tyr | Val | Arg | Asn | Leu | Met | Ile | Glu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Thr | Glu | Asp | Thr | Ile | Lys | Lys | Ser | Phe | Gly | Gln | Phe | Asn | Pro | Gly |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Cys | Val | Glu | Arg | Val | Lys | Lys | Ile | Arg | Asp | Tyr | Ala | Phe | Val | His | Phe |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Ser | Arg | Glu | Asp | Ala | Val | His | Ala | Met | Asn | Asn | Leu | Asn | Gly | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Glu | Leu | Glu | Gly | Ser | Cys | Leu | Glu | Val | Thr | Leu | Ala | Lys | Pro | Val | Asp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
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|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ala | Glu | Ala | Ala | Gln | Gln | Pro | Ser | Tyr | Val | Tyr | Ser | Cys | Asp | Pro | Tyr |

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&lt;210&gt; 5533

&lt;211&gt; 505

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5533

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&lt;210&gt; 5536

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5536

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      130          135          140
Ile His Leu Gly Glu Lys Thr Tyr His Tyr Val Pro Glu Phe Arg Lys
145          150          155          160
Val Ser Ile Ala Ala Thr Ile Ile Tyr Ala Tyr Ala Trp Leu Val Pro
      165          170          175
Leu Ala Leu Trp Gly Phe Leu Met Trp Arg Asn Ser Lys Val Met Asn
      180          185          190
Ile Val Ser Tyr Ser Phe Leu Glu Ile Val Cys Val Tyr Gly Tyr Ser
      195          200          205
Leu Phe Ile Tyr Ile Pro Thr Ala Ile Leu Trp Ile Ile Pro Gln Lys
      210          215          220
Ala Val Arg Trp Ile Leu Val Met Ile Ala Leu Gly Ile Ser Gly Ser
225          230          235          240
Leu Leu Ala Met Thr Phe Trp Pro Ala Val Arg Glu Asp Asn Arg Arg
      245          250          255
Val Ala Leu Ala Thr Ile Val Thr Ile Val Leu Leu His Met Leu Leu
      260          265          270
Ser Val Gly Cys Leu Ala Tyr Phe Phe Asp Ala Pro Glu Met Asp His
      275          280          285
Leu Pro Thr Thr Thr Ala Thr Pro Asn Gln Thr Val Ala Ala Ala Lys
      290          295          300
Ser Ser
305

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&lt;210&gt; 5537

&lt;211&gt; 2881

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5537

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120

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 c  
 2881

&lt;210&gt; 5538

&lt;211&gt; 352

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5538

Met Asp Ile Asp Lys Asp Leu Glu Ala Pro Leu Tyr Leu Thr Pro Glu  
 1 5 10 15  
 Gly Trp Ser Leu Phe Leu Gln Arg Tyr Tyr Gln Val Val His Glu Gly  
 20 25 30  
 Ala Glu Leu Arg His Leu Asp Thr Gln Val Gln Arg Cys Glu Asp Ile  
 35 40 45  
 Leu Gln Gln Leu Gln Ala Val Val Pro Gln Ile Asp Met Glu Gly Asp

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Arg Asn Ile Trp Ile Val Lys Pro Gly Ala Lys Ser Arg Gly Arg Gly |     |     |
| 65  | 70  | 75  |
| Ile Met Cys Met Asp His Leu Glu Glu Met Leu Lys Leu Val Asn Gly |     | 80  |
|   | 85  | 90  |
| Asn Pro Val Val Met Lys Asp Gly Lys Trp Val Val Gln Lys Tyr Ile |     | 95  |
|   | 100 | 105 |
| Glu Arg Pro Leu Leu Ile Phe Gly Thr Lys Phe Asp Leu Arg Gln Trp |     | 110 |
|   | 115 | 120 |
| Phe Leu Val Thr Asp Trp Asn Pro Leu Thr Val Trp Phe Tyr Arg Asp |     | 125 |
|   | 130 | 135 |
| Ser Tyr Ile Arg Phe Ser Thr Gln Pro Phe Ser Leu Lys Asn Leu Asp |     | 140 |
|   | 145 | 150 |
| Asn Ser Val His Leu Cys Asn Asn Ser Ile Gln Lys His Leu Glu Asn |     | 155 |
|   | 165 | 170 |
| Ser Cys His Arg His Pro Leu Leu Pro Pro Asp Asn Met Trp Ser Ser |     | 175 |
|   | 180 | 185 |
| Gln Arg Phe Gln Ala His Leu Gln Glu Met Gly Ala Pro Asn Ala Trp |     | 190 |
|   | 195 | 200 |
| Ser Thr Ile Ile Val Pro Gly Met Lys Asp Ala Val Ile His Ala Leu |     | 205 |
|   | 210 | 215 |
| Gln Thr Ser Gln Asp Thr Val Gln Cys Arg Lys Ala Ser Phe Glu Leu |     | 220 |
|   | 225 | 230 |
| Tyr Gly Ala Asp Phe Val Phe Gly Glu Asp Phe Gln Pro Trp Leu Ile |     | 235 |
|   | 245 | 250 |
| Glu Ile Asn Ala Ser Pro Thr Met Ala Pro Ser Thr Ala Val Thr Ala |     | 255 |
|   | 260 | 265 |
| Arg Leu Cys Ala Gly Val Gln Ala Asp Thr Leu Arg Val Val Ile Asp |     | 270 |
|   | 275 | 280 |
| Arg Arg Leu Asp Arg Asn Cys Asp Thr Gly Ala Phe Glu Leu Ile Tyr |     | 285 |
|   | 290 | 295 |
| Lys Gln Pro Val Thr Thr Ser Pro Ala Ser Thr Pro Arg Pro Ser Cys |     | 300 |
|   | 305 | 310 |
| Leu Leu Pro Met Tyr Ser Asp Thr Arg Ala Arg Ser Ser Asp Asp Ser |     | 315 |
|   | 325 | 330 |
| Thr Ala Ser Trp Trp Ala Leu Arg Pro Cys Arg Pro Gln Ala Arg Pro |     | 335 |
|   | 340 | 345 |
|   |     | 350 |

&lt;210&gt; 5539

&lt;211&gt; 1887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5539

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120

gcatatttgg agttaaaga accaaatatt actaagtaag cagacgcggg cacgcgctgc

180

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300

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1887

&lt;210&gt; 5540

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5540

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Gln Cys Cys Glu Leu Glu Ala Gly Glu Leu Gly Met Ala Val Pro Ala
 20           25           30
Ala Ala Met Gly Pro Ser Ala Leu Gly Gln Ser Gly Pro Gly Ser Met
 35           40           45
Ala Pro Trp Cys Ser Val Ser Ser Gly Pro Ser Arg Tyr Val Leu Gly
 50           55           60
Met Gln Glu Leu Phe Arg Gly His Ser Lys Thr Arg Glu Phe Leu Ala
 65           70           75           80
His Ser Ala Lys Val His Ser Val Ala Trp Ser Cys Asp Gly Arg Arg
 85           90           95
Leu Ala Ser Gly Ser Phe Asp Lys Thr Ala Ser Val Phe Leu Leu Glu
 100          105          110
Arg Thr Gly Trp Ser Lys Lys Thr Ile Ile Gly Asp Met Gly Ile Xaa
 115          120          125
Val Asp Gln Leu Cys Trp His Pro Ser Asn Pro Asp Leu Phe Val Thr
 130          135          140
Ala Ser Gly Asp Lys Thr Ile Arg Ile Trp Asp Val Arg Thr Thr Lys
 145          150          155          160
Cys Ile Ala Thr Val Asn Thr Lys Gly Glu Asn Ile Asn Ile Cys Trp
 165          170          175
Ser Pro Asp Gly Gln Thr Ile Ala Val Gly Asn Lys Asp Asp Val Val
 180          185          190
Thr Phe Ile Asp Ala Lys Thr His Arg Ser Lys Ala Glu Glu Gln Phe
 195          200          205
Lys Phe Glu Val Asn Glu Ile Ser Trp Asn Asn Asp Asn Asn Met Phe
 210          215          220
Phe Leu Thr Asn Gly Asn Gly Cys Ile Asn Ile Leu Ser Tyr Pro Glu
 225          230          235          240
Leu Lys Pro Val Gln Ser Ile Asn Ala His Pro Ser Asn Cys Ile Cys
 245          250          255
Ile Lys Phe Asp Pro Met Gly Lys Tyr Phe Ala Thr Gly Ser Ala Asp
 260          265          270
Ala Leu Val Ser Leu Trp Asp Val Asp Glu Leu Val Cys Val Arg Cys
 275          280          285
Phe Ser Arg Leu Asp Trp Pro Val Arg Thr Leu Ser Phe Ser His Asp
 290          295          300
Gly Lys Met Leu Ala Ser Ala Ser Glu Asp His Phe Ile Asp Ile Ala
 305          310          315          320
Glu Val Glu Thr Gly Asp Lys Leu Trp Glu Val Gln Cys Glu Ser Pro
 325          330          335
Thr Phe Thr Val Ala Trp His Pro Lys Arg Pro Leu Leu Ala Phe Ala
 340          345          350
Cys Asp Asp Lys Asp Gly Lys Tyr Asp Ser Ser Arg Glu Ala Gly Thr
 355          360          365
Val Lys Leu Phe Gly Leu Pro Asn Asp Ser

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370

375

&lt;210&gt; 5541

&lt;211&gt; 1854

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5541

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1380

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 1854

<210> 5542

<211> 315

<212> PRT

<213> Homo sapiens

<400> 5542

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Met | Cys | Asp | Arg | Gly | Ile | Gln | Met | Leu | Ile | Thr | Thr | Val | Gly |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Phe | Ala | Ala | Phe | Ser | Leu | Met | Thr | Ile | Ala | Val | Gly | Thr | Asp | Tyr |
|     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |     |
| Trp | Leu | Tyr | Ser | Arg | Gly | Val | Cys | Arg | Thr | Lys | Ser | Thr | Ser | Asp | Asn |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Thr | Ser | Arg | Lys | Asn | Glu | Glu | Val | Met | Thr | His | Ser | Gly | Leu | Trp |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Arg | Thr | Cys | Cys | Leu | Glu | Gly | Ala | Phe | Arg | Gly | Val | Cys | Lys | Lys | Ile |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Asp | His | Phe | Pro | Glu | Asp | Ala | Asp | Tyr | Glu | Gln | Asp | Thr | Ala | Glu | Tyr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Leu | Arg | Ala | Val | Arg | Ala | Ser | Ser | Val | Phe | Pro | Ile | Leu | Ser | Val |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Thr | Leu | Leu | Phe | Phe | Gly | Gly | Leu | Cys | Val | Ala | Ala | Ser | Glu | Phe | His |
|     | 115 |     |     |     | 120 |     |     |     |     |     |     | 125 |     |     |     |
| Arg | Ser | Arg | His | Asn | Val | Ile | Leu | Ser | Ala | Gly | Ile | Phe | Phe | Val | Ser |
|     | 130 |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |     |
| Ala | Gly | Leu | Ser | Asn | Ile | Ile | Gly | Ile | Ile | Val | Tyr | Ile | Ser | Ala | Asn |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |
| Ala | Gly | Asp | Pro | Gly | Gln | Arg | Asp | Ser | Lys | Lys | Ser | Tyr | Ser | Tyr | Gly |
|     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Trp | Ser | Phe | Tyr | Phe | Gly | Ala | Phe | Ser | Phe | Ile | Ile | Ala | Glu | Ile | Val |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gly | Val | Val | Ala | Val | His | Ile | Tyr | Ile | Glu | Lys | His | Gln | Gln | Leu | Arg |
|     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |     |
| Ala | Lys | Ser | His | Ser | Glu | Phe | Leu | Lys | Lys | Ser | Thr | Phe | Ala | Arg | Leu |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Pro | Pro | Tyr | Arg | Tyr | Arg | Phe | Arg | Arg | Arg | Ser | Ser | Ser | Arg | Ser | Thr |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Glu | Pro | Arg | Ser | Arg | Asp | Leu | Ser | Pro | Ile | Ser | Lys | Gly | Phe | His | Thr |

|   |     |  |     |  |     |
|---|-----|--|-----|--|-----|
|   | 245 |  | 250 |  | 255 |
| Ile Pro Ser Thr Asp Ile Ser Met Phe Thr Leu Ser Arg Asp Pro Ser |     |  |     |  |     |
|   | 260 |  | 265 |  | 270 |
| Lys Ile Thr Met Gly Thr Leu Leu Asn Ser Asp Arg Asp His Ala Phe |     |  |     |  |     |
|   | 275 |  | 280 |  | 285 |
| Leu Gln Phe His Asn Ser Thr Pro Lys Glu Phe Lys Glu Ser Leu His |     |  |     |  |     |
|   | 290 |  | 295 |  | 300 |
| Asn Asn Pro Ala Asn Arg Arg Thr Thr Pro Val                     |     |  |     |  |     |
| 305   | 310 |  | 315 |  |     |

&lt;210&gt; 5543

&lt;211&gt; 4021

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5543

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&lt;210&gt; 5544

&lt;211&gt; 1141

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5544

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| Glu | Pro | Ser | Leu | Glu | Ile | Leu | Pro | Arg | Thr | Ser | Leu | His | Ser | Ile | Pro |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |
| Val | Thr | Val | Glu | Val | Lys | Pro | Val | Leu | Pro | Arg | Ala | Met | Pro | Ser | Ser |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Met | Gly | Gly | Gly | Gly | Gly | Gly | Ser | Pro | Ser | Pro | Val | Glu | Leu | Arg | Gly |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Ala | Leu | Val | Gly | Ser | Val | Asp | Pro | Thr | Leu | Arg | Glu | Gln | Gln | Leu | Gln |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |  |  |  |
| Gln | Glu | Leu | Leu | Ala | Leu | Lys | Gln | Gln | Gln | Gln | Leu | Gln | Lys | Gln | Leu |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |  |  |
| Leu | Phe | Ala | Glu | Phe | Gln | Lys | Gln | His | Asp | His | Leu | Thr | Arg | Gln | His |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Glu | Val | Gln | Leu | Gln | Lys | His | Leu | Lys | Gln | Gln | Gln | Glu | Met | Leu | Ala |  |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Ala | Lys | Gln | Gln | Gln | Glu | Met | Leu | Ala | Ala | Lys | Arg | Gln | Gln | Glu | Leu |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Glu | Gln | Gln | Arg | Gln | Arg | Glu | Gln | Gln | Arg | Gln | Glu | Glu | Leu | Glu | Lys |  |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     | 175 |  |  |  |
| Gln | Arg | Leu | Glu | Gln | Gln | Leu | Leu | Ile | Leu | Arg | Asn | Lys | Glu | Lys | Ser |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Lys | Glu | Ser | Ala | Ile | Ala | Ser | Thr | Glu | Val | Lys | Leu | Arg | Leu | Gln | Glu |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Phe | Leu | Leu | Ser | Lys | Ser | Lys | Glu | Pro | Thr | Pro | Gly | Gly | Leu | Asn | His |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| Ser | Leu | Pro | Gln | His | Pro | Lys | Cys | Trp | Gly | Ala | His | His | Ala | Ser | Leu |  |  |  |
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| Asp | Gln | Ser | Ser | Pro | Pro | Gln | Ser | Gly | Pro | Pro | Gly | Thr | Pro | Pro | Ser |  |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |
| Tyr | Lys | Leu | Pro | Leu | Pro | Gly | Pro | Tyr | Asp | Ser | Arg | Asp | Asp | Phe | Pro |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Leu | Arg | Lys | Thr | Ala | Ser | Glu | Pro | Asn | Leu | Lys | Val | Arg | Ser | Arg | Leu |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |
| Lys | Gln | Lys | Val | Ala | Glu | Arg | Arg | Ser | Ser | Pro | Leu | Leu | Arg | Arg | Lys |  |  |  |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |  |
| Asp | Gly | Thr | Val | Ile | Ser | Thr | Phe | Lys | Lys | Arg | Ala | Val | Glu | Ile | Thr |  |  |  |
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| Gly | Pro | Ser | Ser | Pro | Asn | Ser | Ser | His | Ser | Thr | Ile | Ala | Glu | Asn | Gly |  |  |  |
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| Phe | Thr | Gly | Ser | Val | Pro | Asn | Ile | Pro | Thr | Glu | Met | Leu | Pro | Gln | His |  |  |  |
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&lt;211&gt; 1932

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5545

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&lt;210&gt; 5548

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5548

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Val | Leu | Arg | Arg | Thr | Val | Ser | Tyr | Arg | Leu | Leu | Leu | Trp | Gly | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Ser | Leu | Ala | Arg | Lys | Gln | Gly | Leu | Trp | Lys | Thr | Ala | Ala | Pro | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gln | Thr | Asn | Val | Arg | Ser | Gln | Ile | Leu | Arg | Leu | Arg | His | Thr | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Phe | Val | Ile | Pro | Lys | Lys | Asn | Val | Pro | Thr | Ser | Lys | Arg | Glu | Thr | Tyr |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Thr | Glu | Asp | Phe | Ile | Lys | Lys | Gln | Ile | Glu | Glu | Phe | Asn | Ile | Gly | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | His | Leu | Ala | Asn | Met | Met | Gly | Glu | Asp | Pro | Glu | Thr | Phe | Thr | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Asp | Ile | Asp | Arg | Ala | Ile | Ala | Tyr | Leu | Phe | Pro | Ser | Gly | Leu | Phe |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Lys | Arg | Ala | Arg | Pro | Val | Met | Lys | His | Pro | Glu | Gln | Ile | Phe | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Arg | Gln | Arg | Ala | Ile | Gln | Trp | Gly | Glu | Asp | Gly | Arg | Pro | Phe | His | Tyr |

|   |                     |     |     |     |
|---|---------------------|-----|-----|-----|
| 130   |                     | 135 |     | 140 |
| Leu Phe Tyr Thr Gly Lys Gln Ser Tyr Tyr Ser | Leu Met His Asp Val |     |     |     |
| 145   | 150                 | 155 | 160 |     |
| Xaa Met Glu Cys Tyr Ser Ile                 |                     |     |     |     |
|   | 165                 |     |     |     |

&lt;210&gt; 5549

&lt;211&gt; 1865

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5549

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 120  
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 240  
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 420  
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 480  
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 1865

<210> 5550

<211> 242

<212> PRT

<213> Homo sapiens

<400> 5550

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Ala | Pro | Ala | Val | Lys | Val | Ala | Arg | Gly | Trp | Ser | Gly | Leu | Ala | 1   | 5   | 10  | 15  |
| Leu | Gly | Val | Arg | Arg | Ala | Val | Leu | Gln | Leu | Pro | Gly | Leu | Thr | Gln | Val | 20  | 25  | 30  |     |
| Arg | Trp | Ser | Arg | Tyr | Ser | Pro | Glu | Phe | Lys | Asp | Pro | Leu | Ile | Asp | Lys | 35  | 40  | 45  |     |
| Glu | Tyr | Tyr | Arg | Lys | Pro | Val | Glu | Glu | Leu | Thr | Glu | Glu | Glu | Lys | Tyr | 50  | 55  | 60  |     |
| Val | Arg | Glu | Leu | Lys | Lys | Thr | Gln | Leu | Ile | Lys | Ala | Ala | Pro | Ala | Gly | 65  | 70  | 75  | 80  |
| Lys | Thr | Ser | Ser | Val | Phe | Glu | Asp | Pro | Val | Ile | Ser | Lys | Phe | Thr | Asn | 85  | 90  | 95  |     |
| Met | Met | Met | Ile | Gly | Gly | Asn | Lys | Val | Leu | Ala | Arg | Ser | Leu | Met | Ile | 100 | 105 | 110 |     |
| Gln | Thr | Leu | Glu | Ala | Val | Lys | Arg | Lys | Gln | Phe | Glu | Lys | Tyr | His | Ala | 115 | 120 | 125 |     |
| Ala | Ser | Ala | Glu | Glu | Gln | Ala | Thr | Ile | Glu | Arg | Asn | Pro | Tyr | Thr | Ile | 130 | 135 | 140 |     |
| Phe | His | Gln | Ala | Leu | Lys | Asn | Cys | Glu | Pro | Met | Ile | Gly | Leu | Val | Pro | 145 | 150 | 155 | 160 |
| Ile | Leu | Lys | Gly | Gly | Arg | Phe | Tyr | Gln | Val | Pro | Val | Pro | Leu | Pro | Asp | 165 | 170 | 175 |     |
| Arg | Arg | Arg | Arg | Phe | Leu | Ala | Met | Lys | Trp | Met | Ile | Thr | Glu | Cys | Arg | 180 | 185 | 190 |     |
| Asp | Lys | Lys | His | Gln | Arg | Thr | Leu | Met | Pro | Glu | Lys | Leu | Ser | His | Lys |     |     |     |     |

|   |                     |     |
|---|---------------------|-----|
| 195   | 200                 | 205 |
| Leu Leu Glu Ala Phe His Asn Gln Gly Pro Val | Ile Lys Arg Lys His |     |
| 210   | 215                 | 220 |
| Asp Leu His Lys Met Ala Glu Ala Asn Arg Ala | Leu Ala His Tyr Arg |     |
| 225   | 230                 | 235 |
| Trp Trp                                     |                     | 240 |

&lt;210&gt; 5551

&lt;211&gt; 1689

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5551

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180
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240
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420
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<210> 5552

<211> 104

<212> PRT

<213> Homo sapiens

<400> 5552

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Arg | Ile | Leu | Asp | Gln | Pro | Tyr | Asp | Val | Asn | Leu | Gln | Val | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Leu | Ser | Arg | Leu | Ser | Leu | Phe | Pro | His | Pro | His | Ile | His | Glu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Leu | Leu | Asp | Pro | Tyr | Val | Asn | Leu | Ala | Pro | Gly | Cys | Arg | Ser | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Ser | Val | Ile | Val | Arg | Val | Val | Gly | Asp | Leu | Met | Leu | Arg | Ile | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ile | Gln | Asp | Phe | Thr | Pro | Lys | Leu | Leu | Leu | Val | Arg | Lys | Arg | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Gly | Leu | Glu | Pro | Glu | Gly | Pro | Ile | Ser | Asp | Leu | Glu | Pro | Val | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Leu | Thr | Val | Ser | Ser | Ile | Cys |     |     |     |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 5553

<211> 274

<212> DNA

<213> Homo sapiens

<400> 5553

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 180  
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 240

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274

<210> 5554  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 5554  
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Pro Gln Pro His Pro Thr Ala Ser Pro Asp Pro Lys Val Arg Ile Thr  
35 40 45  
Gly Pro Ala Thr Ala Pro Ala Val Val Leu Ser His Tyr Arg Gly Cys  
50 55 60  
Tyr Phe Pro Ser Gln Cys Pro Trp Gln Pro Trp Lys Pro Met Lys Gln  
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Ala Leu Thr Gln Glu Ser Leu Cys Ile Phe  
85 90

<210> 5555  
<211> 414  
<212> DNA  
<213> Homo sapiens

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120  
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180  
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240  
cacatccaaa cctgaaccca gcacctggcc ccacacctgt cccctggcta gagacggggg  
300  
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414

<210> 5556  
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<212> PRT  
<213> Homo sapiens

<400> 5556  
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20 25 30  
Glu Ser Gln Gly Cys Asp Ser Arg Arg Asp Ser Cys Glu Gly Pro Gly

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Gln Ala Lys Leu Glu Asp Ser Pro Asp Leu Arg Gly Ser Thr Arg Ser
      50              55              60
Arg Cys Leu Leu Asp Leu Ser His Ser Ala His Pro Asn Leu Asn Pro
      65              70              75              80
Ala Pro Gly Pro Thr Pro Val Pro Trp Leu Glu Thr Gly Ala Ser Ala
      85              90              95
Gln Leu Phe Pro Phe Ser His Ser Leu Ser Ala Ala Cys Arg Val His
      100              105              110
Ser Ala Ser
      115

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<210> 5557

<211> 1970

<212> DNA

<213> Homo sapiens

<400> 5557

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1080

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 1970

&lt;210&gt; 5558

&lt;211&gt; 360

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5558

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Asp | Phe | Thr | Pro | Pro | Gly | Ser | Gly | Ala | Cys | Lys | Phe | Ile | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Leu | His | Ser | Tyr | Ser | Phe | Ser | Ser | Lys | His | Thr | Arg | Glu | Arg | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Val | Pro | Arg | Glu | Pro | Ile | Asp | Arg | Lys | Arg | Leu | Lys | Lys | Asp | Val |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Pro | Ser | Cys | Ser | Gly | Ser | Ser | Leu | Gly | Pro | Asp | Lys | Gly | Leu | Ala |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gln | Ser | Pro | Pro | Ser | Ser | Ser | Leu | Thr | Ala | Thr | Arg | Gln | Lys | Pro | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
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&lt;211&gt; 3866

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5559

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<212> PRT

<213> Homo sapiens

<400> 5560

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| Met | Ala | Asn | Asp | Ser | Pro | Ala | Lys | Ser | Leu | Val | Asp | Ile | Asp | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Leu | Arg | Asp | Pro | Ala | Gly | Ile | Phe | Glu | Leu | Val | Glu | Val | Val | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Gly | Thr | Tyr | Gly | Gln | Val | Tyr | Lys | Gly | Arg | His | Val | Lys | Thr | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Leu | Ala | Ala | Ile | Lys | Val | Met | Asp | Val | Thr | Glu | Asp | Glu | Glu | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Ile | Lys | Leu | Glu | Ile | Asn | Met | Leu | Lys | Lys | Tyr | Ser | His | His | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Ile | Ala | Thr | Tyr | Tyr | Gly | Ala | Phe | Ile | Lys | Lys | Ser | Pro | Pro | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| His | Asp | Asp | Gln | Leu | Trp | Leu | Val | Met | Glu | Phe | Cys | Gly | Ala | Gly | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Thr | Asp | Leu | Val | Lys | Asn | Thr | Lys | Gly | Asn | Thr | Leu | Lys | Glu | Asp |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Ile | Ala | Tyr | Ile | Ser | Arg | Glu | Ile | Leu | Arg | Gly | Leu | Ala | His | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Ile | His | His | Val | Ile | His | Arg | Asp | Ile | Lys | Gly | Gln | Asn | Val | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Thr | Glu | Asn | Ala | Glu | Val | Lys | Leu | Val | Asp | Phe | Gly | Val | Ser | Ala |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Leu | Asp | Arg | Thr | Val | Gly | Arg | Arg | Asn | Thr | Phe | Ile | Gly | Thr | Pro |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Trp | Met | Ala | Pro | Glu | Val | Ile | Ala | Cys | Asp | Glu | Asn | Pro | Asp | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Tyr | Asp | Tyr | Arg | Ser | Asp | Leu | Trp | Ser | Cys | Gly | Ile | Thr | Ala | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Met | Ala | Glu | Gly | Ala | Pro | Pro | Leu | Cys | Asp | Met | His | Pro | Met | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ala | Leu | Phe | Leu | Ile | Pro | Arg | Asn | Pro | Pro | Pro | Arg | Leu | Lys | Ser | Lys |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Trp | Ser | Lys | Lys | Phe | Ile | Asp | Phe | Ile | Asp | Thr | Cys | Leu | Ile | Lys |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Tyr | Met | Gln | Arg | Pro | Thr | Thr | Glu | Gln | Leu | Leu | Lys | Phe | Pro | Phe |
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| Ile | Arg | Asp | Gln | Pro | Thr | Glu | Arg | Gln | Val | Arg | Ile | Gln | Leu | Lys | Asp |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
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| Tyr | Glu | Tyr | Ser | Gly | Ser | Glu | Glu | Glu | Asp | Asp | Ser | His | Gly | Glu | Glu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Glu | Pro | Ser | Ser | Ile | Met | Asn | Val | Pro | Gly | Glu | Ser | Thr | Leu | Arg |

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| Leu Val Thr Ile Ser Gly Lys Lys Asp Lys Leu Arg Val Tyr Tyr Leu |      |      |      |      |
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| Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val |      |      |      |      |
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<211> 372

<212> PRT

<213> Homo sapiens

<400> 5562

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| Met | Ser | Lys | Ala | Phe | Gly | Leu | Leu | Arg | Gln | Ile | Cys | Gln | Ser | Ile | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Glu | Ser | Ser | Gln | Ser | Pro | Ala | Asp | Leu | Glu | Glu | Lys | Lys | Glu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Asn | Met | Lys | Arg | Glu | Gln | Pro | Arg | Glu | Arg | Pro | Arg | Ala | Trp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Tyr | Pro | His | Gly | Leu | Val | Gly | Leu | His | Asn | Ile | Gly | Gln | Thr | Cys |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Cys | Leu | Asn | Ser | Leu | Ile | Gln | Val | Phe | Val | Met | Asn | Val | Asp | Phe | Thr |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Ile | Leu | Lys | Arg | Ile | Thr | Val | Pro | Arg | Gly | Ala | Asp | Glu | Gln | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Ser | Val | Pro | Phe | Gln | Met | Leu | Leu | Leu | Leu | Glu | Lys | Met | Gln | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Arg | Gln | Lys | Ala | Val | Arg | Pro | Leu | Glu | Leu | Ala | Tyr | Cys | Leu | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Cys | Asn | Val | Pro | Leu | Phe | Val | Gln | His | Asp | Ala | Ala | Gln | Leu | Tyr |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Lys | Leu | Trp | Asn | Leu | Ile | Lys | Asp | Gln | Ile | Thr | Asp | Val | His | Leu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Val | Glu | Arg | Leu | Gln | Ala | Leu | Tyr | Thr | Ile | Arg | Val | Lys | Asp | Ser | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ile | Cys | Val | Asp | Cys | Ala | Met | Glu | Ser | Ser | Arg | Asn | Ser | Ser | Met | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Leu | Pro | Leu | Ser | Leu | Phe | Asp | Val | Asp | Ser | Lys | Pro | Leu | Lys | Thr |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Glu | Asp | Ala | Leu | His | Cys | Phe | Phe | Gln | Pro | Arg | Glu | Leu | Ser | Ser |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Lys | Ser | Lys | Cys | Phe | Cys | Glu | Asn | Cys | Gly | Lys | Lys | Thr | Arg | Gly | Lys |

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    260                                      265                                      270  
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 Arg Glu Ser Cys Asp Ala Glu Gln Ser Gly Gly Gln Tyr Glu Leu  
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 Phe Ala Val Ile Ala His Val Gly Met Ala Asp Ser Gly His Tyr Cys  
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 Val Tyr Ile Arg Asn Ala Val Asp Gly Lys Trp Phe Cys Phe Asn Asp  
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<211> 2878

<212> DNA

<213> Homo sapiens

<400> 5563

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<211> 683

<212> PRT

<213> Homo sapiens

<400> 5564

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| Met | Ala | Ala | Ala | Val | Ala | Ala | Pro | Leu | Ala | Ala | Gly | Gly | Glu | Glu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Ala | Ala | Thr | Thr | Ser | Val | Pro | Gly | Ser | Pro | Gly | Leu | Pro | Gly | Arg | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ala | Glu | Arg | Ala | Leu | Glu | Glu | Ala | Val | Ala | Thr | Gly | Thr | Leu | Asn |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Ser | Asn | Arg | Arg | Leu | Lys | His | Phe | Pro | Arg | Gly | Ala | Ala | Arg | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Asp | Leu | Ser | Asp | Ile | Thr | Gln | Ala | Asp | Leu | Ser | Arg | Asn | Arg | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Glu | Val | Pro | Glu | Ala | Ala | Cys | Gln | Leu | Val | Ser | Leu | Glu | Gly | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Leu | Tyr | His | Asn | Cys | Leu | Arg | Cys | Leu | Asn | Pro | Ala | Leu | Gly | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Thr | Ala | Leu | Thr | Tyr | Leu | Asn | Leu | Ser | Arg | Asn | Gln | Leu | Ser | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Leu | Pro | Pro | Tyr | Ile | Cys | Gln | Leu | Pro | Leu | Arg | Val | Leu | Ile | Val | Ser |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Asn | Lys | Leu | Gly | Ala | Leu | Pro | Pro | Asp | Ile | Gly | Thr | Leu | Gly | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Arg | Gln | Leu | Asp | Val | Ser | Ser | Asn | Glu | Leu | Gln | Ser | Leu | Pro | Ser |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Leu | Cys | Gly | Leu | Ser | Ser | Leu | Arg | Asp | Leu | Asn | Val | Arg | Arg | Asn |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Leu | Ser | Thr | Leu | Pro | Glu | Glu | Leu | Gly | Asp | Leu | Pro | Leu | Val | Arg |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Asp | Phe | Ser | Cys | Asn | Arg | Val | Ser | Arg | Ile | Pro | Val | Ser | Phe | Cys |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Arg | Leu | Arg | His | Leu | Gln | Val | Ile | Leu | Leu | Asp | Ser | Asn | Pro | Leu | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Ser | Pro | Pro | Ala | Gln | Val | Cys | Leu | Lys | Gly | Lys | Leu | His | Ile | Phe | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Leu | Ser | Thr | Glu | Ala | Gly | Gln | Arg | Gly | Ser | Ala | Leu | Gly | Asp | Leu |

|     |             |                 |                 |                         |     |
|-----|-------------|-----------------|-----------------|-------------------------|-----|
|     | 260         |                 | 265             |                         | 270 |
| Ala | Pro Ser Arg | Pro Pro Ser     | Phe Ser Pro Cys | Pro Ala Glu Asp Leu     |     |
|     | 275         |                 | 280             | 285                     |     |
| Phe | Pro Gly His | Arg Tyr Asp     | Gly Gly Leu Asp | Ser Gly Phe His Ser     |     |
|     | 290         |                 | 295             | 300                     |     |
| Val | Asp Ser Gly | Ser Lys Arg     | Trp Ser Gly Asn | Glu Ser Thr Asp Glu     |     |
| 305 |             | 310             |                 | 315                     | 320 |
| Phe | Ser Glu Leu | Ser Phe Arg     | Ile Ser Glu Leu | Ala Arg Glu Pro Arg     |     |
|     | 325         |                 | 330             |                         | 335 |
| Gly | Pro Arg Glu | Arg Lys Glu Asp | Gly Ser Ala Asp | Gly Asp Pro Val         |     |
|     | 340         |                 | 345             | 350                     |     |
| Gln | Ile Asp Phe | Ile Asp Ser     | His Val Pro Gly | Glu Asp Glu Glu Arg     |     |
|     | 355         |                 | 360             | 365                     |     |
| Gly | Thr Val Glu | Glu Gln Arg     | Pro Pro Glu Leu | Ser Pro Gly Ala Gly     |     |
|     | 370         |                 | 375             | 380                     |     |
| Asp | Arg Glu Arg | Ala Pro Ser     | Ser Arg Arg     | Glu Glu Pro Ala Gly Glu |     |
| 385 |             | 390             |                 | 395                     | 400 |
| Glu | Arg Arg Arg | Pro Asp Thr     | Leu Gln Leu Trp | Gln Glu Arg Glu Arg     |     |
|     | 405         |                 | 410             |                         | 415 |
| Arg | Gln Gln Gln | Gln Ser Gly     | Ala Trp Gly     | Ala Pro Arg Lys Asp Ser |     |
|     | 420         |                 | 425             | 430                     |     |
| Leu | Leu Lys Pro | Gly Leu Arg     | Ala Val Val Gly | Gly Ala Ala Ala Val     |     |
|     | 435         |                 | 440             | 445                     |     |
| Ser | Thr Gln Ala | Met His Asn     | Gly Ser Pro Lys | Ser Ser Ala Ser Gln     |     |
|     | 450         |                 | 455             | 460                     |     |
| Ala | Gly Gly Cys | Ser Gly Ala     | Gly Ser Pro Ala | Pro Ala Pro Ala Ser     |     |
| 465 |             | 470             |                 | 475                     | 480 |
| Gln | Glu Pro Leu | Pro Ile Ala     | Gly Pro Ala Thr | Ala Pro Ala Pro Arg     |     |
|     | 485         |                 | 490             | 495                     |     |
| Pro | Leu Gly Ser | Ile Gln Arg     | Pro Asn Ser     | Phe Leu Phe Arg Ser Ser |     |
|     | 500         |                 | 505             | 510                     |     |
| Ser | Gln Ser Gly | Ser Gly Pro     | Ser Ser Pro Asp | Ser Val Leu Arg Pro     |     |
|     | 515         |                 | 520             | 525                     |     |
| Arg | Arg Tyr Pro | Gln Val Pro     | Asp Glu Lys Asp | Leu Met Thr Gln Leu     |     |
|     | 530         |                 | 535             | 540                     |     |
| Arg | Gln Val Leu | Glu Ser Arg     | Leu Gln Arg     | Pro Leu Pro Glu Asp Leu |     |
| 545 |             | 550             |                 | 555                     | 560 |
| Ala | Glu Ala Leu | Ala Ser Gly     | Val Ile Leu Cys | Gln Leu Ala Asn Gln     |     |
|     | 565         |                 | 570             | 575                     |     |
| Leu | Arg Pro Arg | Ser Val Pro     | Phe Ile His Val | Pro Ser Pro Ala Val     |     |
|     | 580         |                 | 585             | 590                     |     |
| Pro | Lys Leu Ser | Ala Leu Lys     | Ala Arg Lys Asn | Val Glu Ser Phe Leu     |     |
|     | 595         |                 | 600             | 605                     |     |
| Glu | Ala Cys Arg | Lys Met Gly     | Val Pro Glu Ala | Asp Leu Cys Ser Pro     |     |
|     | 610         |                 | 615             | 620                     |     |
| Ser | Asp Leu Leu | Gln Gly Thr     | Ala Arg Gly Leu | Arg Thr Ala Leu Glu     |     |
| 625 |             | 630             |                 | 635                     | 640 |
| Ala | Val Lys Arg | Val Gly Gly     | Lys Ala Leu Pro | Pro Leu Trp Pro Pro     |     |
|     | 645         |                 | 650             | 655                     |     |
| Ser | Gly Leu Gly | Gly Phe Val     | Val Phe Tyr Val | Val Leu Met Leu Leu     |     |
|     | 660         |                 | 665             | 670                     |     |
| Leu | Tyr Val Thr | Tyr Thr Arg     | Leu Leu Gly Ser |                         |     |
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&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5568

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| Met | Gln | Ser | Val | Asn | Cys | Val | Asn | Cys | Ile | Gly | His | Ser | Asn | Leu | Thr |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ser | Ile | Pro | Ala | Ala | Ser | Leu | Phe | Leu | Ile | Cys | Ile | His | Ser | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Arg | Ser | Ile | His | Leu | Ala | Pro | Leu | Gln | Ile | Trp | Val | Leu | Cys | Lys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Leu | Pro | Trp | Asp | Thr | Glu | Gly | Lys | Ser | Asp | Thr | Ala | Leu | Leu | Ser |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Ser | Ser | Gln | Thr | Leu | Arg | Tyr | Pro | Asp | Thr | Thr | Ala | Leu | Ile | Val | Ser |
|     |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Asn | Thr | Ala | Thr | Ser | Ala | Gly | Lys | Tyr | Gln | Arg | Cys | Phe | Thr | Arg |
|     |     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Met | Tyr | Gln | Ile | Leu | Lys | Ala | Ala | Val | Pro | Lys | Tyr | His | Lys | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Gly | Leu | Lys | Gln | Gln | Lys | Phe | Ile | Pro | Ser | Gln | Ser | Trp | Arg | Pro |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Asp | Val |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5569

&lt;211&gt; 876

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5569

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ttaagtaaaa tgaagaacat tttacttatt tttatgtcca gtacagtcaa agcagccaca
120
ttgcataacc ccggggggacc cccttcctct ttgtgatgcc ccagaacaat attgatttga
180
ttatagaaaag ccaccggcag cctacatgcg caacgggtgag ttgttggtta tatacactgt
240
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300
tggaacacgc ttatgatata atgttaggca aaatcgctgt tatgaacagc tcgtttgggg
360
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420
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480
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gaggcatcct ggggctgcac tgctgatcct cttctctctc ccctggccct gagtgtctgc
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720
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780
cagggagcaa ttccagcatg gaagtcccca tcatgctcct gctggcaggt acaggtgcca
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876

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&lt;210&gt; 5570

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5570

```

Thr Ala Arg Leu Gly Gln Ser Lys Ser Trp Glu Val Thr Leu Arg Leu
1          5          10          15
Leu Val Gln Ala Val Glu Tyr Asn Ile Phe Glu Gly Met Glu Cys His
20          25          30
Gly Ser Pro Leu Val Val Ile Ser Gln Gly Lys Ile Val Phe Glu Asp
35          40          45
Gly Asn Ile Asn Val Asn Lys Gly Met Gly Arg Phe Ile Pro Arg Lys
50          55          60
Ala Phe Pro Glu His Ser Ser Thr Trp Leu Glu Leu His Asn His Gly
65          70          75          80
Arg Arg His Val Cys Glu Ala Ser Trp Gly Cys Thr Ala Asp Pro Leu
85          90          95
Leu Ser Pro Leu Ala Leu Ser Ala Ala Phe Met Trp Leu Ser Pro Ser

```

```

          100          105          110
Val Leu Gln Ala Phe Ile Ser Phe Arg Ala Ala Pro Ser Leu Cys Pro
          115          120          125
Gly Thr Leu Ala Lys Met Gln Cys Leu Pro Asn Ser His Ile Ser Phe
          130          135          140
Asn Gln Gly Ala Ile Pro Ala Trp Lys Ser Pro Ser Cys Ser Cys Trp
145          150          155          160
Gln Val Gln Val Pro Val Cys Asp Gly
          165

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<210> 5571  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

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<400> 5571
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120
aagtttccag aagactttga cgatggagag catgcaaagc agaaatcagt catctcctgg
180
ctgttgaacc acgatccagc aaaacggccc acagccacag aactgctcaa gagtgagctg
240
ctgcccccac ccagatgga ggagtcagag ctgcatgaag tgctgcacca cacgctgacc
300
aacgtggatg ggaaggccta ccgcaccatg atggcccaga tcttctcgca gcgcctcgct
360
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405

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<210> 5572  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

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<400> 5572
Asn Gln Lys Val Asp Leu Phe Ser Leu Gly Ile Ile Phe Phe Glu Met
1      5      10      15
Ser Tyr His Pro Met Val Thr Ala Ser Glu Arg Ile Phe Val Leu Asn
20     25     30
Gln Leu Arg Asp Pro Thr Ser Pro Lys Phe Pro Glu Asp Phe Asp Asp
35     40     45
Gly Glu His Ala Lys Gln Lys Ser Val Ile Ser Trp Leu Leu Asn His
50     55     60
Asp Pro Ala Lys Arg Pro Thr Ala Thr Glu Leu Leu Lys Ser Glu Leu
65     70     75     80
Leu Pro Pro Pro Gln Met Glu Glu Ser Glu Leu His Glu Val Leu His
85     90     95
His Thr Leu Thr Asn Val Asp Gly Lys Ala Tyr Arg Thr Met Met Ala
100    105    110
Gln Ile Phe Ser Gln Arg Leu Ala Gly Ala Gly Gly Gly Tyr Arg
115    120    125
Ser Arg Leu Gly Val Pro Arg

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130

135

&lt;210&gt; 5573

&lt;211&gt; 1279

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5573

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60  
cctccagaca gtaccacagg cacctggagt accggcatcg gtcgctgtgg ccccgagtg  
120  
tccgtcagag cctaggggag cctgccctcc cgcgcctcgt cggggcccg ccaggcacct  
180  
tggccgccgg cgcacggacg cgggcacgag cactagatca cggctgctgg acctcggcac  
240  
gttgacaaga tttctctggg gtaccgcgga ggattacttt gaatttcggg ggtcgcctgt  
300  
ggctctggcat atttagaact taagtctatt atttcgggca ccatgacttt gaggtcttta  
360  
gaagactggt gcagggggat ggacatgaac cctcggaaag cgctattgat tgccggcatc  
420  
tcccagagct gcagtgtggc agaaatcgag gaggtctctgc aggctggttt agctcccttg  
480  
ggggagtaca gactgcttgg aaggatgttc aggagggatg agaacaggaa agtagcctta  
540  
gtagggctta ctgcggagac tagtcacgcc ctgggtcccta aggagatacc gggaaaaggg  
600  
ggtatctgga gagtgatctt taagccccct gaccagata atacattttt aagcagatta  
660  
aatgaatttt tagcgggaga gggcatgaca gtgggtgagt tgagcagagc tcttggacat  
720  
gaaaaatggct ccttagaccc agagcagggc atgatcccg aaatgtgggc ccctatgttg  
780  
gcacaggcat tagaggctct tcagcctgcc ctgcaatgct tgaagtataa aaagctgaga  
840  
gtgttctcgg gcagggagtc tccagaacca ggagaagaag aatttggacg ctggatgttt  
900  
catactactc agatgataaa ggcgtggcag gtgccagatg tagagaagag aaggcgattg  
960  
ctagagagcc ttcgaggccc agcacttgat gttattcgtg tcctcaagat aaacaatcct  
1020  
ttaattactg tcgatgaatg tctgcaggct cttgaggagg tatttggggg tacagataat  
1080  
cctagggagt tgcaggtaa atatctaacc acttaccaga aggatgagga aaagtgtcgc  
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1279

&lt;210&gt; 5574

<211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 5574  
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 Ala Glu Ile Glu Glu Ala Leu Gln Ala Gly Leu Ala Pro Leu Gly Glu  
 35 40 45  
 Tyr Arg Leu Leu Gly Arg Met Phe Arg Arg Asp Glu Asn Arg Lys Val  
 50 55 60  
 Ala Leu Val Gly Leu Thr Ala Glu Thr Ser His Ala Leu Val Pro Lys  
 65 70 75 80  
 Glu Ile Pro Gly Lys Gly Gly Ile Trp Arg Val Ile Phe Lys Pro Pro  
 85 90 95  
 Asp Pro Asp Asn Thr Phe Leu Ser Arg Leu Asn Glu Phe Leu Ala Gly  
 100 105 110  
 Glu Gly Met Thr Val Gly Glu Leu Ser Arg Ala Leu Gly His Glu Asn  
 115 120 125  
 Gly Ser Leu Asp Pro Glu Gln Gly Met Ile Pro Glu Met Trp Ala Pro  
 130 135 140  
 Met Leu Ala Gln Ala Leu Glu Ala Leu Gln Pro Ala Leu Gln Cys Leu  
 145 150 155 160  
 Lys Tyr Lys Lys Leu Arg Val Phe Ser Gly Arg Glu Ser Pro Glu Pro  
 165 170 175  
 Gly Glu Glu Glu Phe Gly Arg Trp Met Phe His Thr Thr Gln Met Ile  
 180 185 190  
 Lys Ala Trp Gln Val Pro Asp Val Glu Lys Arg Arg Arg Leu Leu Glu  
 195 200 205  
 Ser Leu Arg Gly Pro Ala Leu Asp Val Ile Arg Val Leu Lys Ile Asn  
 210 215 220  
 Asn Pro Leu Ile Thr Val Asp Glu Cys Leu Gln Ala Leu Glu Glu Val  
 225 230 235 240  
 Phe Gly Val Thr Asp Asn Pro Arg Glu Leu Gln Val Lys Tyr Leu Thr  
 245 250 255  
 Thr Tyr Gln Lys Asp Glu Glu Lys Leu Ser Ala Tyr Val Leu Arg Leu  
 260 265 270  
 Glu Pro Leu Leu Gln Lys Leu Val Gln Arg Gly Ala Ile Glu Arg Asp  
 275 280 285  
 Ala Val Asn Gln Ala Arg Leu Asp Gln Val Ile Ala Gly Ala Val His  
 290 295 300  
 Lys Thr Ile Arg Arg Glu Leu Asn  
 305 310

<210> 5575  
 <211> 2405  
 <212> DNA  
 <213> Homo sapiens

<400> 5575  
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120  
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180  
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240  
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300  
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360  
ccagtggagg ctctgaaagg tctgggtgat aagcttcaag cgtaaccgg caatgagggc  
420  
cgctgtctg tggaatacat caagcagctg ttgcaatgtt tagtcccagg aagcaccact  
480  
ctgcacagtg ctgagatttt ggctgaaatc gcccgatcc ttcggcctgg tggatgtctt  
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660  
cccctaacc ctgaggaagt acagtctgtt cgagaacacc ttggatcatga aagtacaac  
720  
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780  
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gaagcctgca gtcactttag cttttcatta gcagagacca cgactgtatc actcattgt  
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tgtaagaact gcacctgtgg ccttgctgaa gaactggaaa aagagaagtc aaggaacag  
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1680

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 1920  
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 1980  
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 2040  
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 2160  
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 2220  
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 2280  
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 2340  
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 2405

<210> 5576

<211> 367

<212> PRT

<213> Homo sapiens

<400> 5576

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Asp | Phe | Gly | Ile | Ser | Ala | Gly | Gln | Phe | Val | Ala | Val | Val | Trp |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Asp | Lys | Ser | Ser | Pro | Val | Glu | Ala | Leu | Lys | Gly | Leu | Val | Asp | Lys | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Gln | Ala | Leu | Thr | Gly | Asn | Glu | Gly | Arg | Val | Ser | Val | Glu | Asn | Ile | Lys |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gln | Leu | Leu | Gln | Cys | Leu | Val | Pro | Gly | Ser | Thr | Thr | Leu | His | Ser | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Ile | Leu | Ala | Glu | Ile | Ala | Arg | Ile | Leu | Arg | Pro | Gly | Gly | Cys | Leu |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Phe | Leu | Lys | Glu | Pro | Val | Glu | Thr | Ala | Val | Asp | Asn | Asn | Ser | Lys | Val |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Lys | Thr | Ala | Ser | Lys | Leu | Cys | Ser | Ala | Leu | Thr | Leu | Ser | Gly | Leu | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Glu | Val | Lys | Glu | Leu | Gln | Arg | Glu | Pro | Leu | Thr | Pro | Glu | Glu | Val | Gln |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser | Val | Arg | Glu | His | Leu | Gly | His | Glu | Ser | Asp | Asn | Leu | Leu | Phe | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Ile | Thr | Gly | Lys | Lys | Pro | Asn | Phe | Glu | Val | Gly | Ser | Ser | Arg | Gln |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Lys | Leu | Ser | Ile | Thr | Lys | Lys | Ser | Ser | Pro | Ser | Val | Lys | Pro | Ala |

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<210> 5577
<211> 659
<212> DNA
<213> Homo sapiens
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4760

<210> 5578  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<400> 5578

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Leu His Ala Asp Lys Leu Trp Phe Cys Cys Leu Ser Pro Asn His Lys
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Leu Leu Gln Tyr Gly Asp Met Glu Glu Gly Xaa Gln Pro Ala Tyr Pro
      20           25           30
Xaa Glu Ser Leu Pro Glu Gln Leu Pro Val Ala Asp Met Arg Ala Leu
      35           40           45
Leu Thr Gly Lys Asp Cys Pro His Val Arg Glu Lys Gly Ser Gly Lys
      50           55           60
Gln Asn Lys Asp Leu Tyr Glu Leu Ala Phe Ser Ile Ser Tyr Asp Arg
65           70           75           80
Gly Glu Glu Glu Ala Tyr Leu Asn Phe Ile Ala Pro Ser Lys Arg Glu
      85           90           95
Phe Tyr Leu Trp Thr Asp Gly Leu Ser Ala Leu Leu Gly Ser Pro Met
      100          105          110
Gly Ser Glu Gln Thr Arg Leu Asp Leu Glu Gln Leu Leu Thr Met Glu
      115          120          125
Thr Lys Leu Arg Leu Leu Glu Leu Glu Asn Val Pro Ile Pro Glu Arg
      130          135          140
Pro Pro Pro Val Pro Pro Pro Pro Thr Asn Phe Asn Phe Cys Tyr Asp
145          150          155          160
Cys Ser Ile Ala Glu Pro
      165

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<210> 5579  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 5579

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180
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240
cctgcaccac cagctcaggc tcccttgcca ggaactgtta tgcaggctcc tgctgttcgg
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360
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420
caagtgcata ctgagcccc acgccccgtg caccagcac ccttaccaga agctccacaa
480
ccacagcgtc tgccccaga agctgccagc acatctctgc ctgagaagcc acacttgaag
540

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 660  
 actgtgccct cacaatggaa aaagattggg gaagtcaagg cacttccctt gcccatggca  
 720  
 tgtactctca ccagtttgt atctggtagc aaatactact ttgcagtacg agccaaggat  
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 1020  
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 1312

&lt;210&gt; 5580

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5580

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Val | Ser | Thr | Met | Ser | Ser | Ser | Gln | Pro | Val | Ser | Arg | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Pro | Ile | Gln | Pro | Ala | Pro | Pro | Leu | Gln | Pro | Ser | Gly | Val | Pro | Thr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Gly | Pro | Ser | Gln | Thr | Thr | Ile | His | Leu | Leu | Pro | Thr | Ala | Pro | Thr |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Thr | Val | Asn | Val | Thr | His | Arg | Pro | Val | Thr | Gln | Val | Thr | Thr | Arg | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Val | Pro | Arg | Ala | Pro | Ala | Asn | His | Gln | Val | Val | Tyr | Thr | Thr | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Ala | Pro | Pro | Ala | Gln | Ala | Pro | Leu | Arg | Gly | Thr | Val | Met | Gln | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Ala | Val | Arg | Gln | Val | Asn | Pro | Gln | Asn | Ser | Val | Thr | Val | Arg | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Pro | Gln | Thr | Thr | Thr | Tyr | Val | Val | Asn | Asn | Gly | Leu | Thr | Leu | Gly | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Thr | Gly | Pro | Gln | Leu | Thr | Val | His | His | Arg | Pro | Pro | Gln | Val | His | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Glu | Pro | Pro | Arg | Pro | Val | His | Pro | Ala | Pro | Leu | Pro | Glu | Ala | Pro | Gln |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Gln | Arg | Leu | Pro | Pro | Glu | Ala | Ala | Ser | Thr | Ser | Leu | Pro | Gln | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |
| Pro | His | Leu | Lys | Leu | Ala | Arg | Val | Gln | Ser | Gln | Asn | Gly | Ile | Val | Leu |
| 180 |     |     |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Ser | Trp | Ser | Val | Leu | Glu | Val | Asp | Arg | Ser | Cys | Ala | Thr | Val | Asp | Ser |
| 195 |     |     |     | 200 |     |     |     |     |     |     |     | 205 |     |     |     |
| Tyr | His | Leu | Tyr | Ala | Tyr | His | Glu | Glu | Pro | Ser | Ala | Thr | Val | Pro | Ser |
| 210 |     |     |     | 215 |     |     |     |     |     |     |     | 220 |     |     |     |
| Gln | Trp | Lys | Lys | Ile | Gly | Glu | Val | Lys | Ala | Leu | Pro | Leu | Pro | Met | Ala |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     | 240 |     |     |     |
| Cys | Thr | Leu | Thr | Gln | Phe | Val | Ser | Gly | Ser | Lys | Tyr | Tyr | Phe | Ala | Val |
| 245 |     |     |     |     |     |     |     | 250 |     |     |     | 255 |     |     |     |
| Arg | Ala | Lys | Asp | Ile | Tyr | Gly | Arg | Phe | Gly | Pro | Phe | Cys | Asp | Pro | Gln |
| 260 |     |     |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |
| Ser | Thr | Asp | Val | Ile | Ser | Ser | Thr | Gln | Ser | Ser |     |     |     |     |     |
| 275 |     |     |     | 280 |     |     |     |     |     |     |     |     |     |     |     |

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<211> 720
<212> DNA
<213> Homo sapiens
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120
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180
tgggagcaga tctgcaagga gtatgaagct gagcagcctc cctttccaga aggatataaa
240
gtcaaacagg agcctgtgat tacggttgcyg ccagtagagg aaatgctttt tcatggcttc
300
agtgcagagc actattttcc ggtttcccat ttcaccatga tctcacgtac accctgtcct
360
caagataaat cggaaacaat caacccaaaa acatgttctc ccaaagaata tttggaaact
420
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480
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540
ttattatcag atgatatgctc attatcttyg taccatcagg ttgttctcca gatgaccctc
600
tcgggaggga aagcctgtgt ttggggtcac ttacccagtt ccagccacac catctagttg
660
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720

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<212> PRT
<213> Homo sapiens
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<212> DNA
<213> Homo sapiens
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4764

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720  
cagcagatcc tgcagctctc tgacctgtgg aggctgaccc tccagaagcg tggctgcaag  
780  
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840  
ctgcagttca cagagaacca cctccagttc caggccgacc ccgacgtgct gcacaacagc  
900  
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1020  
tatgcctgca aggcaggctg cctggacgag ccagtggagc tgacctcggc gccacgggc  
1080  
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1140  
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1200  
gagcacatgg cccagcagga ccccgggctg cccttctctt tctggttcag cgtggcctcc  
1260  
ctaatacccc tcttccacct ctctctcttc aagctcatct acaacgagta ctgtgggcct  
1320  
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1380  
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1440  
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1500  
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1560  
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1620  
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1680  
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1740  
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1800  
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1980  
ttggggcttc aggggaggtg ttttaacttc tagtgattga tgattgtcag gttttgaaat  
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2100  
a  
2101

&lt;210&gt; 5584

&lt;211&gt; 454

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5584

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 Gly Arg Pro His Val Tyr Leu Gln Arg Ile Gln Leu Asn Asn Pro Thr  
 20 25 30  
 Glu Arg Val Ala Ala Leu Gln Thr Val Gly Pro Thr Ala Gly Pro Ala  
 35 40 45  
 Pro Asn Ala Phe Thr Ser Thr Leu Glu Lys Val Gly Asp His Gln Phe  
 50 55 60  
 Leu Leu Tyr Ser Gly Arg Ser Pro Pro Thr Pro Thr Gly Leu Val His  
 65 70 75 80  
 Leu Val Val Val Ala Ala Lys Lys Leu Val Asn Arg Leu Gln Val Ala  
 85 90 95  
 Pro Lys Thr Gln Leu Asp Glu Thr Val Leu Trp Val Val His Val Ser  
 100 105 110  
 Gly Pro Ile Asn Pro Gln Val Leu Lys Ser Lys Ala Ala Lys Glu Leu  
 115 120 125  
 Lys Ala Leu Gln Asp Leu Ala Arg Lys Glu Met Leu Glu Leu Leu Asp  
 130 135 140  
 Met Pro Ala Ala Glu Leu Leu Gln Asp His Gln Leu Leu Trp Ala Gln  
 145 150 155 160  
 Leu Phe Ser Pro Gly Val Glu Met Lys Lys Ile Thr Asp Thr His Thr  
 165 170 175  
 Pro Ser Gly Leu Thr Val Asn Leu Thr Leu Tyr Tyr Met Leu Ser Cys  
 180 185 190  
 Ser Pro Ala Pro Leu Leu Ser Pro Ser Leu Ser His Arg Glu Arg Asp  
 195 200 205  
 Gln Met Glu Ser Thr Leu Asn Tyr Glu Asp His Cys Phe Ser Gly His  
 210 215 220  
 Ala Thr Met His Ala Glu Asn Leu Trp Pro Gly Arg Leu Ser Ser Val  
 225 230 235 240  
 Gln Gln Ile Leu Gln Leu Ser Asp Leu Trp Arg Leu Thr Leu Gln Lys  
 245 250 255  
 Arg Gly Cys Lys Gly Leu Val Lys Val Gly Ala Pro Gly Ile Leu Gln  
 260 265 270  
 Gly Met Val Leu Ser Phe Gly Gly Leu Gln Phe Thr Glu Asn His Leu  
 275 280 285  
 Gln Phe Gln Ala Asp Pro Asp Val Leu His Asn Ser Tyr Ala Leu His  
 290 295 300  
 Gly Ile Arg Tyr Lys Asn Asp His Ile Asn Leu Ala Val Leu Arg Met  
 305 310 315 320  
 Pro Arg Ala Ser Pro Thr Tyr Thr Cys Pro Trp Ser Pro Val Ala Ser  
 325 330 335  
 Leu Ser Xaa Ile Tyr Ala Cys Lys Ala Gly Cys Leu Asp Glu Pro Val  
 340 345 350  
 Glu Leu Thr Ser Ala Pro Thr Gly His Thr Phe Ser Val Met Val Thr  
 355 360 365  
 Gln Pro Ile Thr Pro Leu Leu Tyr Ile Ser Thr Asp Leu Thr His Leu  
 370 375 380  
 Gln Asp Leu Arg His Thr Leu His Leu Lys Ala Ile Leu Ala His Asp

385                      390                      395                      400  
 Glu His Met Ala Gln Gln Asp Pro Gly Leu Pro Phe Leu Phe Trp Phe  
                                  405                      410                      415  
 Ser Val Ala Ser Leu Ile Thr Leu Phe His Leu Phe Leu Phe Lys Leu  
                                  420                      425                      430  
 Ile Tyr Asn Glu Tyr Cys Gly Pro Gly Ala Lys Pro Leu Phe Arg Ser  
                                  435                      440                      445  
 Lys Glu Asp Pro Ser Val  
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 <211> 740  
 <212> DNA  
 <213> Homo sapiens

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 120  
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 180  
 tttacaatc tataaatttt ttatacttaa aatcatgatt gagttgaaat aaaaaagtgc  
 240  
 atttcaattg ctaaaaaaat aatatcggtg tagttaacac aagggggaaa tcagtacatt  
 300  
 gagggatctg acaggatgct ggaaaaaatg actcagggaa gccgggcagc atgggctcct  
 360  
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 420  
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 480  
 cccaacccaa agactcctct aaacttcttt gcagcatgac agctgcctgc cctacactga  
 540  
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 600  
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 720  
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 740

<210> 5586  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 5586  
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                                  20                      25                      30  
 Leu Lys Arg Ser Cys Pro Thr Tyr Leu Ser Pro Pro Gln Pro Lys Asp

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<400> 5588
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 1             5             10             15
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<211> 1327
<212> DNA
<213> Homo sapiens
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120
gataacttca ccaagatgtc cagtgatagg caaagggtccg atgatgagag cccagcacc
180
agcagtggca gtccagatgc ggaccagcga gaccagccg ctccagagcc tgaagaacaa
240
gaggaaagaa aaccttctgc caccagcag aagaaaaaca ccaaactctc tagcaaaacc
300
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360
gatcctctc ctaattgcag tgctgggcct aaaggagata acatttatga atggagatca
420
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480
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540
tgcaacatca acagtcaggg agtcatctgt ctggacatcc ttaaagacaa ctggagtcct
600
gctttgacta tttcaaaggt ttgtgtgtct atttgttccc ttttgacaga ctgcaaccct
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720

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<210> 5590
<211> 207
<212> PRT
<213> Homo sapiens
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4770

195

200

205

&lt;210&gt; 5591

&lt;211&gt; 2194

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5591

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 120  
 gacgtagccg ccacattcca gttccgcacg cggtgggatt cggatctgca gcgggaagga  
 180  
 gtgtccatt acaggtctt ccctaaagcc ctgggacagc tgatctccaa gtattctcta  
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 300  
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 360  
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 420  
 aacttcatcg actccaccaa cacagtcact cccactgcct ccttcaaacc cctgggtctg  
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 960  
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 1080  
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 1140  
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 1200  
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 1260  
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 1320  
 aactcagtca ccaaggtttc catccagttt gagcggggcg tgctgaagtg gaccgagtac  
 1380

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 1740  
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 1920  
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 1980  
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 2040  
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 2100  
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 2160  
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 2194

<210> 5592

<211> 580

<212> PRT

<213> Homo sapiens

<400> 5592

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| Met | Pro | Ser | Gly | Ser | Ala | Arg | Pro | Val | Ala | Pro | Gly | Ala | Arg | Arg | Leu         |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |             |
| Val | Pro | Cys | Arg | Thr | Pro | Thr | Arg | Gln | Leu | Arg | Glu | Glu | Leu | Val | Ile         |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |             |
| Thr | Pro | Leu | Pro | Ser | Gly | Asp | Val | Ala | Ala | Thr | Phe | Gln | Phe | Arg | Thr         |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |             |
| Arg | Trp | Asp | Ser | Asp | Leu | Gln | Arg | Glu | Gly | Val | Ser | His | Tyr | Arg | Leu         |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |             |
| Phe | Pro | Lys | Ala | Leu | Gly | Gln | Leu | Ile | Ser | Lys | Tyr | Ser | Leu | Arg | Glu         |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |             |
| Leu | His | Leu | Ser | Phe | Thr | Gln | Gly | Phe | Trp | Arg | Thr | Arg | Tyr | Trp | Gly         |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  | Pro Phe Leu |
| Gln | Ala | Pro | Ser | Gly | Ala | Glu | Leu | Trp | Val | Trp | Phe |     |     |     |             |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |             |
| Gln | Asp | Thr | Val | Thr | Asp | Val | Asp | Lys | Ser | Trp | Arg | Glu | Leu | Ser | Asn         |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |             |
| Val | Leu | Ser | Gly | Ile | Phe | Cys | Ala | Ser | Leu | Asn | Phe | Ile | Asp | Ser | Thr         |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |             |
| Asn | Thr | Val | Thr | Pro | Thr | Ala | Ser | Phe | Lys | Pro | Leu | Gly | Leu | Ala | Asn         |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160     |
| Asp | Thr | Asp | His | Tyr | Phe | Leu | Arg | Tyr | Ala | Val | Leu | Pro | Arg | Glu Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175     |
| Val | Cys | Thr | Glu | Asn | Leu | Thr | Pro | Trp | Lys | Lys | Leu | Leu | Pro | Cys Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |         |
| Ser | Lys | Ala | Gly | Leu | Ser | Val | Leu | Leu | Lys | Ala | Asp | Arg | Leu | Phe His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |         |
| Thr | Ser | Tyr | His | Ser | Gln | Ala | Val | His | Ile | Arg | Pro | Val | Cys | Arg Asn |
|     |     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |         |
| Ala | Arg | Cys | Thr | Ser | Ile | Ser | Trp | Glu | Leu | Arg | Gln | Thr | Leu | Ser Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240     |
| Val | Phe | Asp | Ala | Phe | Ile | Thr | Gly | Gln | Gly | Lys | Lys | Asp | Trp | Ser Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255     |
| Phe | Arg | Met | Phe | Ser | Arg | Thr | Leu | Thr | Glu | Pro | Cys | Pro | Leu | Ala Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |         |
| Glu | Ser | Arg | Val | Tyr | Val | Asp | Ile | Thr | Thr | Tyr | Asn | Gln | Pro | Cys Leu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |         |
| Cys | Val | Gln | Asp | Asn | Glu | Thr | Leu | Glu | Val | His | Pro | Pro | Pro | Thr Thr |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |         |
| Thr | Tyr | Gln | Asp | Val | Ile | Leu | Gly | Thr | Arg | Lys | Thr | Tyr | Ala | Ile Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320     |
| Asp | Leu | Leu | Asp | Thr | Ala | Met | Ile | Asn | Asn | Ser | Arg | Asn | Leu | Asn Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335     |
| Gln | Leu | Lys | Trp | Lys | Arg | Pro | Pro | Glu | Asn | Glu | Ala | Pro | Pro | Val Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |         |
| Phe | Leu | His | Ala | Gln | Arg | Tyr | Val | Ser | Gly | Tyr | Gly | Leu | Gln | Lys Gly |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |         |
| Glu | Leu | Ser | Thr | Leu | Leu | Tyr | Asn | Thr | His | Pro | Tyr | Arg | Ala | Phe Pro |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |         |
| Val | Leu | Leu | Leu | Asp | Thr | Val | Pro | Trp | Tyr | Leu | Arg | Leu | Tyr | Val His |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400     |
| Thr | Leu | Thr | Ile | Thr | Ser | Lys | Gly | Lys | Glu | Asn | Lys | Pro | Ser | Tyr Ile |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415     |
| His | Tyr | Gln | Pro | Ala | Gln | Asp | Arg | Leu | Gln | Pro | His | Leu | Leu | Glu Met |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |         |
| Leu | Ile | Gln | Leu | Pro | Ala | Asn | Ser | Val | Thr | Lys | Val | Ser | Ile | Gln Phe |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |         |
| Glu | Arg | Ala | Leu | Leu | Lys | Trp | Thr | Glu | Tyr | Thr | Pro | Asp | Pro | Asn His |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |         |
| Gly | Phe | Tyr | Val | Ser | Pro | Ser | Val | Leu | Ser | Ala | Leu | Val | Pro | Ser Met |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480     |
| Val | Ala | Ala | Lys | Pro | Val | Asp | Trp | Glu | Glu | Ser | Pro | Leu | Phe | Asn Ser |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495     |
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|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |         |
| Glu | Pro | Leu | Leu | Val | Asn | Leu | Pro | Thr | Pro | Asp | Phe | Ser | Met | Pro Tyr |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |         |
| Asn | Val | Ile | Cys | Leu | Thr | Cys | Thr | Val | Val | Ala | Val | Cys | Tyr | Gly Ser |
|     |     | 530 |     |     |     | 535 |     |     |     |     |     | 540 |     |         |
| Phe | Tyr | Asn | Leu | Leu | Thr | Arg | Thr | Phe | His | Ile | Glu | Glu | Pro | Arg Thr |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560     |
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|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575     |
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<213> Homo sapiens

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&lt;210&gt; 5598

&lt;211&gt; 312

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5598

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|   | 275 | 280 |
| Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys Val Leu Leu |     | 285 |
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&lt;211&gt; 4492

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5599

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<212> PRT

<213> Homo sapiens

<400> 5604

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| His | Val | Cys | Arg | Pro | Pro | Gly | Asn | Val | Ser | Gln | Val | Val | Phe | His | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Ser | Asn | Trp | Ser | Leu | Glu | Asp | Thr | Gly | Ala | Leu | Leu | Ser | Ser | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Lys | Asp | Tyr | Val | Thr | Val | Gln | Leu | Gln | Asn | Gly | Glu | Ile | Trp | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Ser | Arg | Cys | Ser | Arg | Asn | Lys | Arg | Glu | Asn | Thr | Ser | Ser | Leu | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Tyr | Glu | Tyr | Thr | Gly | Ser | Lys | Lys | Glu | Phe | Pro | Cys | Val | Asp | Gly | Tyr |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Tyr | Asp | Gln | Asn | Thr | Trp | Lys | Ser | Thr | Ala | Val | Thr | Gln | Trp | Asn |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Leu | Val | Cys | Asp | Arg | Lys | Trp | Leu | Ala | Met | Leu | Ile | Gln | Pro | Leu | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Phe | Gly | Val | Leu | Leu | Gly | Ser | Val | Thr | Phe | Gly | Tyr | Phe | Ser | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Leu | Gly | Arg | Arg | Val | Val | Leu | Trp | Ala | Thr | Ser | Ser | Ser | Met | Phe |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Leu | Phe | Gly | Ile | Ala | Ala | Ala | Phe | Ala | Val | Asp | Tyr | Tyr | Thr | Phe | Met |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Ala | Ala | Arg | Phe | Phe | Leu | Ala | Met | Val | Ala | Ser | Gly | Tyr | Leu | Val | Val |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Gly | Phe | Val | Tyr | Val | Met | Glu | Phe | Ile | Gly | Met | Lys | Ser | Arg | Thr | Trp |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Ala | Ser | Val | His | Leu | His | Ser | Phe | Phe | Ala | Val | Gly | Thr | Leu | Leu | Val |
| 225 |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Leu | Thr | Gly | Tyr | Leu | Val | Arg | Thr | Trp | Trp | Leu | Tyr | Gln | Met | Ile |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Leu | Ser | Thr | Val | Thr | Val | Pro | Phe | Ile | Leu | Cys | Cys | Trp | Val | Leu | Pro |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Glu | Thr | Pro | Phe | Trp | Leu | Leu | Ser | Glu | Gly | Arg | Tyr | Glu | Glu | Ala | Gln |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Lys | Ile | Val | Asp | Ile | Met | Ala | Lys | Trp | Asn | Arg | Ala | Ser | Ser | Cys | Lys |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Leu | Ser | Glu | Leu | Leu | Ser | Leu | Asp | Leu | Gln | Gly | Pro | Val | Ser | Asn | Ser |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |
| Pro | Thr | Glu | Val | Gln | Lys | His | Asn | Leu | Ser | Tyr | Leu | Phe | Tyr | Asn | Trp |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Ser | Ile | Thr | Lys | Arg | Thr | Leu | Thr | Val | Trp | Leu | Ile | Trp | Phe | Thr | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 340 |     | 345 |     | 350 |     |     |     |     |     |     |     |     |     |     |
| Ser | Leu | Gly | Phe | Tyr | Ser | Phe | Ser | Leu | Asn | Ser | Val | Asn | Leu | Gly | Gly |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asn | Glu | Tyr | Leu | Asn | Leu | Phe | Leu | Leu | Gly | Val | Val | Glu | Ile | Pro | Ala |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Tyr | Thr | Phe | Val | Cys | Ile | Ala | Met | Asp | Lys | Val | Gly | Arg | Arg | Thr | Val |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Leu | Ala | Tyr | Ser | Leu | Phe | Cys | Ser | Ala | Leu | Ala | Cys | Gly | Val | Val | Met |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     | 415 |     |     |
| Val | Ile | Pro | Gln | Lys | His | Tyr | Ile | Leu | Gly | Val | Val | Thr | Ala | Met | Val |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Gly | Lys | Phe | Ala | Ile | Gly | Ala | Ala | Phe | Gly | Leu | Ile | Tyr | Leu | Tyr | Thr |
|     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |     |
| Ala | Glu | Leu | Tyr | Pro | Thr | Ile | Val | Arg | Ser | Leu | Ala | Val | Gly | Ser | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |
| Ser | Met | Val | Cys | Arg | Leu | Ala | Ser | Ile | Leu | Ala | Pro | Phe | Ser | Val | Asp |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |
| Leu | Ser | Ser | Ile | Trp | Ile | Phe | Ile | Pro | Gln | Leu | Phe | Val | Gly | Thr | Met |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
| Ala | Leu | Leu | Ser | Gly | Val | Leu | Thr | Leu | Lys | Leu | Pro | Glu | Thr | Leu | Gly |
|     | 500 |     |     |     |     |     |     | 505 |     |     |     | 510 |     |     |     |
| Lys | Arg | Leu | Ala | Thr | Thr | Trp | Glu | Glu | Ala | Ala | Lys | Leu | Glu | Ser | Glu |
|     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |     |
| Asn | Glu | Ser | Lys | Ser | Ser | Lys | Leu | Leu | Leu | Thr | Thr | Asn | Asn | Ser | Gly |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |
| Leu | Glu | Lys | Thr | Glu | Ala | Ile | Thr | Pro | Arg | Asp | Ser | Gly | Leu | Gly | Glu |
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&lt;213&gt; Homo sapiens

&lt;400&gt; 5605

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&lt;210&gt; 5606

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&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5606

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Met Thr Arg Ala Leu Leu Thr Ser Leu Val Leu Leu Pro Ala Arg Gln
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Ala His Pro Cys Arg Ala Leu Ala Leu Thr Ala Pro Ile Phe Leu Leu
      20           25           30
Leu Phe Pro Ser Ser Glu Cys Gly Trp Phe Ser Leu Leu Leu Ser Ser
      35           40           45
Asp Val Pro Ser Ser Ser Leu Glu Arg Pro Pro Trp Met Thr Glu Glu
      50           55           60
Val Thr Thr Thr Ser Ser Arg Ser Thr Pro Arg Pro Ser Val Ser Pro
      65           70           75           80
Ser Gln Cys Leu Ala Pro Ser Asn Ile Ala Phe Cys Val Tyr His Gln
      85           90           95
Phe Pro Phe Thr Arg
      100

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&lt;210&gt; 5607

&lt;211&gt; 320

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5607

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320

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&lt;210&gt; 5608

&lt;211&gt; 106

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5608

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Val His Thr Arg Gly Ile Gly Ser Arg Leu Leu Thr Lys Met Gly Tyr
 1           5           10           15
Glu Phe Gly Lys Gly Leu Gly Arg His Ala Glu Gly Arg Val Glu Pro
      20           25           30
Ile His Ala Val Val Leu Pro Arg Gly Lys Ser Leu Asp Gln Cys Val
      35           40           45
Glu Thr Leu Gln Lys Gln Thr Arg Val Gly Lys Ala Gly Thr Asn Lys
      50           55           60
Pro Pro Arg Cys Arg Gly Arg Gly Ala Arg Pro Gly Gly Arg Pro Ala
      65           70           75           80
Pro Arg Asn Val Phe Asp Phe Leu Asn Glu Lys Leu Gln Gly Gln Ala
      85           90           95
Pro Gly Ala Leu Gln Ala Gly Arg Pro Gln

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100

105

&lt;210&gt; 5609

&lt;211&gt; 1843

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5609

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240
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720
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1380

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 1560  
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 1620  
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 1680  
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 1740  
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<210> 5610

<211> 153

<212> PRT

<213> Homo sapiens

<400> 5610

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Arg | Asp | Phe | Lys | Phe | Lys | Leu | Ser | Ser | Thr | Pro | Leu | Gly | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Phe | Thr | Ala | Cys | Ser | Ser | Arg | Val | Gln | Met | Ala | Cys | Ile | Cys | Ala | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Thr | Gly | Gly | Arg | Gln | Asp | His | Thr | Ser | Leu | Pro | His | Trp | Ala | Cys |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Leu | Leu | Val | Asp | Ser | Cys | Met | Gln | Glu | Ala | Val | Met | Gly | Ser | Leu | Arg |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ile | Pro | Gln | Cys | Gly | Asn | Gly | Pro | Leu | Arg | Leu | Val | Leu | Arg | Val | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Ala | Gln | Ser | Trp | Val | Gly | Gly | Cys | Trp | Trp | Glu | Val | Arg | Asn | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Phe | Trp | Leu | Pro | Ser | Gly | Gln | Leu | Pro | Thr | Ala | Leu | Thr | Trp | Glu | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Ala | His | Arg | Gln | Asp | Ala | Leu | Gly | Tyr | Cys | Cys | Thr | Val | Leu | His |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Ile | Phe | Ile | Gln | Pro | Thr | Arg | Phe | Asn | Arg | Ser | Leu | Gly | Ser | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Arg | Leu | Leu | Cys | Leu | Phe | Lys | His |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     |     |     |     |     |     |     |

<210> 5611

<211> 1152

<212> DNA

<213> Homo sapiens

<400> 5611

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 180  
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 240  
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 360  
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 420  
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 660  
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 720  
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 840  
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 900  
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 960  
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 1020  
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 1152

&lt;210&gt; 5612

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5612

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Val | Leu | Gly | Arg | Ser | Phe | Phe | Trp | Val | Leu | Phe | Pro | Val | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Trp | Ala | Val | Gln | Ala | Val | Glu | His | Glu | Glu | Val | Ala | Gln | Arg | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Lys | Leu | His | Arg | Gly | Arg | Gly | Val | Ala | Ala | Met | Gln | Ser | Arg | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Val | Arg | Asp | Ser | Cys | Arg | Lys | Leu | Ser | Gly | Leu | Leu | Arg | Gln | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Ala | Val | Leu | Asn | Lys | Leu | Lys | Thr | Ala | Ile | Gly | Ala | Val | Glu | Lys |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Val | Gly | Leu | Ser | Asp | Glu | Glu | Lys | Leu | Phe | Gln | Val | His | Thr | Phe |

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240
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420
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480
aaaaaggaat gtgcggcaag aggagaagac tatgagaaag tgaagttgct ggagatcagt
540
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600
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 780  
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 1020  
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 1679

&lt;210&gt; 5614

&lt;211&gt; 242

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5614

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Gln | Phe | Ser | Leu | Ser | Gln | Val | Leu | Val | Asp | Ser | Ala | Glu | Glu | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Leu | Ala | Ala | Ala | Ala | Glu | Leu | Ala | Ala | Gln | Lys | Arg | Glu | Gln | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Arg | Lys | Phe | Arg | Glu | Leu | His | Leu | Met | Arg | Asn | Glu | Ala | Arg | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Leu | Asn | His | Gln | Glu | Val | Val | Glu | Glu | Asp | Lys | Arg | Leu | Lys | Leu | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ala | Asn | Trp | Glu | Ala | Lys | Lys | Ala | Arg | Leu | Glu | Trp | Glu | Leu | Lys | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Glu | Lys | Lys | Lys | Glu | Cys | Ala | Ala | Arg | Gly | Glu | Asp | Tyr | Glu | Lys |

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780

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<210> 5616

<211> 507

<212> PRT

<213> Homo sapiens

<400> 5616

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Val | Leu | Ser | Gly | Tyr | Phe | Lys | Gln | Phe | Gln | Lys | Ser | Leu | Pro |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Pro | Arg | Phe | Gln | Arg | Gln | Gln | Glu | Gln | Met | Lys | Gln | Gln | Gln | Trp | Gln |
|     | 20  |     |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Gln | Gln | Gln | Gln | Gln | Gly | Val | Leu | Pro | Gln | Thr | Val | Pro | Ser | Gln | Pro |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ser | Ser | Ser | Thr | Val | Pro | Pro | Pro | His | Arg | Pro | Leu | Tyr | Gln | Pro |     |
|     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |
| Met | Gln | Pro | His | Pro | Gln | His | Leu | Ala | Ser | Met | Gly | Phe | Asp | Pro | Arg |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Trp | Leu | Met | Met | Gln | Ser | Tyr | Met | Asp | Pro | Arg | Met | Met | Ser | Gly | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Pro | Ala | Met | Asp | Ile | Pro | Pro | Ile | His | Pro | Gly | Met | Ile | Pro | Pro | Lys |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Pro | Leu | Met | Arg | Arg | Asp | Gln | Met | Glu | Gly | Ser | Pro | Asn | Ser | Ser | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser | Phe | Glu | His | Ile | Ala | Arg | Ser | Ala | Arg | Asp | His | Ala | Ile | Ser | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Ser | Glu | Pro | Arg | Met | Leu | Trp | Gly | Ser | Asp | Pro | Tyr | Pro | His | Ala | Glu |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |
| Pro | Gln | Gln | Ala | Thr | Thr | Pro | Lys | Ala | Thr | Glu | Glu | Pro | Glu | Asp | Val |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Arg | Ser | Glu | Ala | Ala | Leu | Asp | Gln | Glu | Gln | Ile | Thr | Ala | Ala | Tyr | Ser |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Val | Glu | His | Asn | Gln | Leu | Glu | Ala | His | Pro | Lys | Ala | Asp | Phe | Ile | Arg |  |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Glu | Ser | Ser | Glu | Ala | Gln | Val | Gln | Lys | Phe | Leu | Ser | Arg | Ser | Val | Glu |  |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Asp | Val | Arg | Pro | His | His | Thr | Asp | Ala | Asn | Asn | Gln | Ser | Ala | Cys | Phe |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |  |
| Glu | Ala | Pro | Asp | Gln | Lys | Thr | Leu | Ser | Thr | Pro | Gln | Glu | Glu | Arg | Ile |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Ser | Ala | Val | Glu | Ser | Gln | Pro | Ser | Arg | Lys | Arg | Ser | Val | Ser | His | Gly |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Ser | Asn | His | Thr | Gln | Lys | Pro | Asp | Glu | Gln | Arg | Ser | Glu | Pro | Ser | Ala |  |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Gly | Ile | Pro | Lys | Val | Thr | Ser | Arg | Cys | Ile | Asp | Ser | Lys | Glu | Pro | Ile |  |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Glu | Arg | Pro | Glu | Glu | Lys | Pro | Lys | Lys | Glu | Gly | Phe | Ile | Arg | Ser | Ser |  |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Glu | Gly | Pro | Lys | Pro | Glu | Lys | Val | Tyr | Lys | Ser | Lys | Ser | Glu | Thr | Arg |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Trp | Gly | Pro | Arg | Pro | Ser | Ser | Asn | Arg | Arg | Glu | Glu | Val | Asn | Asp | Arg |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Pro | Val | Arg | Arg | Ser | Gly | Pro | Ile | Lys | Lys | Pro | Val | Leu | Arg | Asp | Met |  |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Lys | Glu | Glu | Arg | Glu | Gln | Arg | Lys | Glu | Lys | Glu | Gly | Glu | Lys | Ala | Glu |  |
|     |     |     | 370 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Lys | Val | Thr | Glu | Lys | Val | Val | Val | Lys | Pro | Glu | Lys | Thr | Glu | Lys | Lys |  |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Asp | Leu | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Gln | Pro | Pro | Ala | Pro | Ile | Gln |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Pro | Gln | Ser | Val | Pro | Pro | Pro | Ile | Gln | Pro | Glu | Ala | Glu | Lys | Phe | Pro |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Ser | Thr | Glu | Thr | Ala | Thr | Leu | Ala | Gln | Lys | Pro | Ser | Gln | Asp | Thr | Glu |  |
|     |     |     | 435 |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Lys | Pro | Leu | Glu | Pro | Val | Ser | Thr | Val | Gln | Val | Glu | Pro | Ala | Val | Lys |  |
|     |     |     | 450 |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Thr | Val | Asn | Gln | Gln | Thr | Met | Ala | Ala | Pro | Val | Val | Lys | Glu | Lys | Glu |  |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Leu | Gln | Lys | Lys | Glu | Arg | Lys | Gln | Glu | Lys | Glu | Lys | Glu | Leu | Glu | Arg |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |
| Gln | Lys | G   |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 5617

<211> 3480

<212> DNA

<213> Homo sapiens

<400> 5617

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<210> 5618

<211> 1003

<212> PRT

<213> Homo sapiens

<400> 5618

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Ser | Ile | Ser | Leu | Phe | Met | Ala | His | Val | His | Thr | Thr | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Glu | Met | Ser | Thr | Arg | Tyr | Tyr | Gln | Asn | Glu | Arg | Arg | His | Asn | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Thr | Pro | Lys | Ser | Phe | Leu | Glu | Gln | Ile | Ser | Leu | Phe | Lys | Asn | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Lys | Lys | Lys | Gln | Asn | Glu | Val | Ser | Glu | Lys | Lys | Glu | Arg | Leu | Val |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Asn | Gly | Ile | Gln | Lys | Leu | Lys | Thr | Thr | Ala | Ser | Gln | Val | Gly | Asp | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Ala | Arg | Leu | Ala | Ser | Gln | Glu | Ala | Glu | Leu | Gln | Leu | Arg | Asn | His |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Ala | Glu | Ala | Leu | Ile | Thr | Lys | Ile | Gly | Leu | Gln | Thr | Glu | Lys | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Arg | Glu | Lys | Thr | Ile | Ala | Asp | Ala | Glu | Glu | Arg | Lys | Val | Thr | Ala |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ile | Gln | Thr | Glu | Val | Phe | Gln | Lys | Gln | Arg | Glu | Cys | Glu | Ala | Asp | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Lys | Ala | Glu | Pro | Ala | Leu | Val | Ala | Ala | Thr | Ala | Ala | Leu | Asn | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Asn | Arg | Val | Asn | Leu | Ser | Glu | Leu | Lys | Ala | Phe | Pro | Asn | Pro | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ile | Ala | Val | Thr | Asn | Val | Thr | Ala | Ala | Val | Met | Val | Leu | Leu | Ala | Pro |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Gly | Arg | Val | Pro | Lys | Asp | Arg | Ser | Trp | Lys | Ala | Ala | Lys | Val | Phe |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Met | Gly | Lys | Val | Asp | Asp | Phe | Leu | Gln | Ala | Leu | Ile | Asn | Tyr | Asp | Lys |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Glu | His | Ile | Pro | Glu | Asn | Cys | Leu | Lys | Val | Val | Asn | Glu | His | Tyr | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Lys | Asp | Pro | Glu | Phe | Asn | Pro | Asn | Leu | Ile | Arg | Thr | Lys | Ser | Phe | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Ala | Ala | Gly | Leu | Cys | Ala | Trp | Val | Ile | Asn | Ile | Ile | Lys | Phe | Tyr | Glu |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Val | Tyr | Cys | Asp | Val | Glu | Pro | Lys | Arg | Gln | Ala | Leu | Ala | Gln | Ala | Asn |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Glu | Leu | Ala | Ala | Ala | Thr | Glu | Lys | Leu | Glu | Ala | Ile | Arg | Lys | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Val | Val | Ser | Ala | Asn | Tyr | Asp | Ile | Glu | Lys | Ser | Glu | Lys | Ile | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Trp | Gly | Gln | Ser | Ile | Lys | Ser | Phe | Glu | Ala | Gln | Glu | Lys | Thr | Leu | Cys |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Gly | Asp | Val | Leu | Leu | Thr | Ala | Ala | Phe | Val | Ser | Tyr | Val | Gly | Pro | Phe |

4803

|   |     |     |      |     |
|---|-----|-----|------|-----|
| 770   |     | 775 |      | 780 |
| Trp Val Glu Ser Glu Cys Pro Glu Lys Glu Lys Leu Pro Gln Glu Trp |     |     |      |     |
| 785   |     | 790 |      | 795 |
| Lys Lys Lys Ser Leu Ile Gln Lys Leu Ile Leu Leu Arg Ala Met Arg |     |     |      | 800 |
|   | 805 |     | 810  | 815 |
| Pro Asp Arg Met Thr Tyr Ala Leu Arg Asn Phe Val Glu Glu Lys Leu |     |     |      |     |
|   | 820 |     | 825  | 830 |
| Gly Ala Lys Tyr Val Glu Arg Thr Arg Leu Asp Leu Val Lys Ala Phe |     |     |      |     |
|   | 835 |     | 840  | 845 |
| Glu Glu Ser Ser Pro Ala Thr Pro Ile Phe Phe Ile Leu Ser Pro Gly |     |     |      |     |
|   | 850 |     | 855  | 860 |
| Val Asp Ala Leu Lys Asp Leu Glu Ile Leu Gly Lys Arg Leu Gly Phe |     |     |      |     |
| 865   |     | 870 |      | 875 |
| Thr Ile Asp Ser Gly Lys Phe His Asn Val Ser Leu Gly Gln Gly Gln |     |     |      |     |
|   | 885 |     | 890  | 895 |
| Glu Thr Val Ala Glu Val Ala Leu Glu Lys Ala Ser Lys Gly Gly His |     |     |      |     |
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| Trp Val Ile Leu Gln Asn Val His Leu Val Ala Lys Trp Leu Gly Thr |     |     |      |     |
|   | 915 |     | 920  | 925 |
| Leu Glu Lys Leu Leu Glu Arg Phe Ser Gln Gly Ser His Arg Asp Tyr |     |     |      |     |
|   | 930 |     | 935  | 940 |
| Arg Val Phe Met Ser Ala Glu Ser Ala Pro Thr Pro Asp Glu His Ile |     |     |      |     |
| 945   |     | 950 |      | 955 |
| Ile Pro Gln Gly Leu Leu Glu Asn Ser Ile Lys Ile Thr Asn Glu Pro |     |     |      |     |
|   | 965 |     | 970  | 975 |
| Pro Thr Gly Met Leu Ala Asn Leu His Ala Ala Leu Tyr Asn Phe Asp |     |     |      |     |
|   | 980 |     | 985  | 990 |
| Gln Val Arg Lys Arg Ser Arg Leu Gly Arg Gln                     |     |     |      |     |
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&lt;210&gt; 5619

&lt;211&gt; 1219

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5619

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&lt;210&gt; 5620

&lt;211&gt; 333

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5620

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ser | Pro | Glu | Arg | Leu | Ala | Leu | Pro | Asp | Tyr | Glu | Tyr | Leu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Arg | His | Val | Leu | Thr | Tyr | Met | Glu | Asp | Ala | Val | Cys | Gln | Leu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asn | Arg | Glu | Asp | Ile | Ser | Gln | Tyr | Gly | Ile | Ala | Arg | Phe | Phe | Thr |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Tyr | Phe | Asn | Ser | Val | Cys | Gln | Gly | Thr | His | Ile | Leu | Phe | Arg | Glu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Phe | Ser | Phe | Val | Gln | Ala | Thr | Pro | His | Asn | Arg | Val | Ser | Phe | Leu | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Phe | Trp | Arg | Cys | Phe | Arg | Thr | Val | Gly | Lys | Asn | Gly | Asp | Leu | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr | Met | Lys | Glu | Tyr | His | Cys | Leu | Leu | Gln | Leu | Leu | Cys | Pro | Asp | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Leu | Glu | Leu | Thr | Gln | Lys | Ala | Ala | Arg | Ile | Val | Leu | Met | Asp | Asp |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ala | Met | Asp | Cys | Leu | Met | Ser | Phe | Ser | Asp | Phe | Leu | Phe | Ala | Phe | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Gln | Phe | Tyr | Tyr | Ser | Glu | Phe | Leu | Asp | Ser | Val | Ala | Ala | Ile | Tyr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Glu | Asp | Leu | Leu | Ser | Gly | Lys | Asn | Pro | Asn | Thr | Val | Ile | Val | Pro | Thr |
|     |     |     | 165 |     |     |     | 170 |     |     |     |     |     |     | 175 |     |
| Ser | Ser | Ser | Gly | Gln | His | Arg | Gln | Arg | Pro | Ala | Leu | Gly | Gly | Ala | Gly |



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Phe Arg Ala Ser Ser Ala Leu Thr Cys Pro Gly Cys Trp Asp Val Gln
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Thr Gly

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&lt;210&gt; 5623

&lt;211&gt; 357

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5623

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gccattgtgt attacctcat tcaaaagttt cattccaggg ctttatatta caagttggca
240
gtggagcagc tgcagagcca tcccagggca caggaagctc tgggccctcc tctcaacatc
300
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357

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&lt;210&gt; 5624

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5624

```

Met Trp Gln Lys Tyr Ala Gly Ser Arg Arg Ser Met Pro Leu Gly Ala
1          5          10          15
Arg Ile Leu Phe His Gly Val Phe Tyr Ala Gly Gly Phe Ala Ile Val
      20          25          30
Tyr Tyr Leu Ile Gln Lys Phe His Ser Arg Ala Leu Tyr Tyr Lys Leu
      35          40          45
Ala Val Glu Gln Leu Gln Ser His Pro Glu Ala Gln Glu Ala Leu Gly
      50          55          60
Pro Pro Leu Asn Ile His Tyr Leu Lys Leu Ile Asp Arg Glu Asn Phe
65          70          75          80
Val Asp Ile Val Asp Ala Lys Leu
      85

```

&lt;210&gt; 5625

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5625

```

gccgactcgt ggtacctggc gcttctgggc ttcgtgagc acttccgcac ttccagcccg
60

```

cccaaaatcc gcctgtgcgt gcactgcctg caggccgtgt tccccttcaa gccgccgcag  
 120  
 cgcatcgagg cccgtacaca cctgcagctg ggctccgttc tctatcacca caccaagaac  
 180  
 agcgagcagg cgcgagacca cctggagaag gcgtgggtga tatcacagca aatcccacag  
 240  
 ttcgaagatg ttaaatttga agcagcaagt ctgttgcttg aattgtactg tcaagagaat  
 300  
 tccgttgatg cagcaaagcc gctgctgcgg aaggcgatcc agatctcaca gcagacccca  
 360  
 tattggcact gccgcctgct cttccagctc gctcaactgc acacgcttga gaaggacctg  
 420  
 gtgtcggcct gtgacctcct ggggttaggg gccgagtacg cccgggtggg gggatctgaa  
 480  
 tacacacggg cgctgttcct cctcagcaag gggatgctgc tgctgatgga gcgaaagctg  
 540  
 caggaggtgc acccgctgct gacctctgc gggcagatcg tggagaactg gcaggggaac  
 600  
 cccatccaga aggagtcgct gcgtgtcttc ttctggtgc tccaggtcac ccactatctg  
 660  
 gatgccgggc aggtgaagag cgtgaagccg tgtctgaagc agctgcagca gtgcatccag  
 720  
 accatctcca cactgcacga tgatgagatc ctgcccagca accccgctga cctcttccac  
 780  
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 840  
 caggccggct acctggagaa ggcgcagaag tacacggaca aggccctcat gcagctggag  
 900  
 aagctcaaga tgctggactg cagccccatc ctgtcatcct tccaagtgat cctgctggag  
 960  
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 1017

<210> 5626

<211> 339

<212> PRT

<213> Homo sapiens

<400> 5626

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Asp | Ser | Trp | Tyr | Leu | Ala | Leu | Leu | Gly | Phe | Ala | Glu | His | Phe | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ser | Ser | Pro | Pro | Lys | Ile | Arg | Leu | Cys | Val | His | Cys | Leu | Gln | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Phe | Pro | Phe | Lys | Pro | Pro | Gln | Arg | Ile | Glu | Ala | Arg | Thr | His | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Leu | Gly | Ser | Val | Leu | Tyr | His | His | Thr | Lys | Asn | Ser | Glu | Gln | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ser | His | Leu | Glu | Lys | Ala | Trp | Leu | Ile | Ser | Gln | Gln | Ile | Pro | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Phe | Glu | Asp | Val | Lys | Phe | Glu | Ala | Ala | Ser | Leu | Leu | Ser | Glu | Leu | Tyr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Cys | Gln | Glu | Asn | Ser | Val | Asp | Ala | Ala | Lys | Pro | Leu | Leu | Arg | Lys | Ala |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |
| Ile | Gln | Ile | Ser | Gln | Gln | Thr | Pro | Tyr | Trp | His | Cys | Arg | Leu | Leu | Phe |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Gln Leu Ala Gln Leu His Thr Leu Glu Lys Asp Leu Val Ser Ala Cys |     |     |
| 130   | 135 | 140 |
| Asp Leu Leu Gly Val Gly Ala Glu Tyr Ala Arg Val Val Gly Ser Glu |     |     |
| 145   | 150 | 155 |
| Tyr Thr Arg Ala Leu Phe Leu Leu Ser Lys Gly Met Leu Leu Leu Met |     |     |
| 165   | 170 | 175 |
| Glu Arg Lys Leu Gln Glu Val His Pro Leu Leu Thr Leu Cys Gly Gln |     |     |
| 180   | 185 | 190 |
| Ile Val Glu Asn Trp Gln Gly Asn Pro Ile Gln Lys Glu Ser Leu Arg |     |     |
| 195   | 200 | 205 |
| Val Phe Leu Val Leu Gln Val Thr His Tyr Leu Asp Ala Gly Gln     |     |     |
| 210   | 215 | 220 |
| Val Lys Ser Val Lys Pro Cys Leu Lys Gln Leu Gln Gln Cys Ile Gln |     |     |
| 225   | 230 | 235 |
| Thr Ile Ser Thr Leu His Asp Asp Glu Ile Leu Pro Ser Asn Pro Ala |     |     |
| 245   | 250 | 255 |
| Asp Leu Phe His Trp Leu Pro Lys Glu His Met Cys Val Leu Val Tyr |     |     |
| 260   | 265 | 270 |
| Leu Val Thr Val Met His Ser Met Gln Ala Gly Tyr Leu Glu Lys Ala |     |     |
| 275   | 280 | 285 |
| Gln Lys Tyr Thr Asp Lys Ala Leu Met Gln Leu Glu Lys Leu Lys Met |     |     |
| 290   | 295 | 300 |
| Leu Asp Cys Ser Pro Ile Leu Ser Ser Phe Gln Val Ile Leu Leu Glu |     |     |
| 305   | 310 | 315 |
| His Ile Ile Met Cys Arg Leu Val Thr Gly His Lys Ala Thr Ala Leu |     |     |
| 325   | 330 | 335 |
| Gln Glu Ile   |     |     |

&lt;210&gt; 5627

&lt;211&gt; 1401

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5627

nctctcacac tgtggaattc tctctatcag cctcaaagtc cagatttgga aagggagtct  
60  
cagcgagggg cagcagctgg cccaaccggg aggcagagcg gcaactgaac tctagccgga  
120  
aagagccagg gttatgtgca catgggaggt ggggaggaca ggggctgtat gtgacctca  
180  
catctgttcc tcgcgcccc gatggcttct gctgcctgct ccatggacct catcgacagc  
240  
tttgagctcc tggatctcct gtttgaccgg caggacggca tcctgagaca cgtggagctg  
300  
ggcgagggct ggggtcacgt caaggaccag gtcttgccaa accccgactc tgacgacttc  
360  
ctcagctcca tcctgggctc tggagactca ctgccagct cccactctg gtcccccgaa  
420  
ggcagtgata gtggcatctc cgaagacctc ccctccgacc cccaggacac ccctccacgc  
480  
agcggaccag ccacctcccc cgccggtgc catctgccc agcctggcaa ggggccctgc  
540

ctctcctatc atcctggcaa ctcttgctcc accacaaccc cagggccagt gatccaacaa  
 600  
 cagcatcacc tgggggcctc ctacctcctg cgacctgggg ctgggcactg tcaggagctg  
 660  
 gtgctcaccg aggatgagaa gaagctgctg gctaaagaag gcatcacctt gccactcag  
 720  
 ctgccccctca ctaagtacga ggagcgagtg ctgaaaaaaaa tccgccggaa aatccggaac  
 780  
 aagcagtcgg cgcaagaaag caggaagaag aagaaggaat atatcgatgg cctggagact  
 840  
 cggctcctgtt gctgtccttt gccctcatca tcctcccctc catcagccct tttggcccc  
 900  
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 960  
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 1020  
 gacccgagggc tgacacaacc cgagaagagt ctccaggaag ccccggggca gactggggct  
 1080  
 tccaggacac cgcgaaacctg accaattcga cggaggagct ggacaacgcc accctgggtc  
 1140  
 tgaggaatgc aacagagggg ctgggccagg tcgccctgct ggactgggtg gcgcctgggc  
 1200  
 cgagcactgg ctcaggacgt gcagggtg aggcggcggg agacgagctg tgagccccac  
 1260  
 caggactatg ctcccaggcc cctctgcca ggggtgcctt ggggatgctg cactgggcag  
 1320  
 ctaccacact ggggatggga cgtgaggcca agaccccagc agagatgcca gaatggggga  
 1380  
 ggcacagctc atagccacac a  
 1401

&lt;210&gt; 5628

&lt;211&gt; 299

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5628

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ser | Ala | Ala | Cys | Ser | Met | Asp | Pro | Ile | Asp | Ser | Phe | Glu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Asp | Leu | Leu | Phe | Asp | Arg | Gln | Asp | Gly | Ile | Leu | Arg | His | Val | Glu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Leu | Gly | Glu | Gly | Trp | Gly | His | Val | Lys | Asp | Gln | Val | Leu | Pro | Asn | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Asp | Ser | Asp | Asp | Phe | Leu | Ser | Ser | Ile | Leu | Gly | Ser | Gly | Asp | Ser | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Ser | Ser | Pro | Leu | Trp | Ser | Pro | Glu | Gly | Ser | Asp | Ser | Gly | Ile | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Asp | Leu | Pro | Ser | Asp | Pro | Gln | Asp | Thr | Pro | Pro | Arg | Ser | Gly | Pro |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Thr | Ser | Pro | Ala | Gly | Cys | His | Pro | Ala | Gln | Pro | Gly | Lys | Gly | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Leu | Ser | Tyr | His | Pro | Gly | Asn | Ser | Cys | Ser | Thr | Thr | Thr | Pro | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Val | Ile | Gln | Gln | Gln | His | His | Leu | Gly | Ala | Ser | Tyr | Leu | Leu | Arg |

130 135 140  
 Pro Gly Ala Gly His Cys Gln Glu Leu Val Leu Thr Glu Asp Glu Lys  
 145 150 155 160  
 Lys Leu Leu Ala Lys Glu Gly Ile Thr Leu Pro Thr Gln Leu Pro Leu  
 165 170 175  
 Thr Lys Tyr Glu Glu Arg Val Leu Lys Lys Ile Arg Arg Lys Ile Arg  
 180 185 190  
 Asn Lys Gln Ser Ala Gln Glu Ser Arg Lys Lys Lys Lys Glu Tyr Ile  
 195 200 205  
 Asp Gly Leu Glu Thr Arg Ser Cys Cys Cys Pro Leu Pro Ser Ser Ser  
 210 215 220  
 Ser Pro Pro Ser Ala Leu Leu Ala Pro Thr Lys Pro Arg Ala Leu Gly  
 225 230 235 240  
 Thr Leu Arg Leu Tyr Glu Cys Ser Pro Glu Leu Cys Thr Thr Met Leu  
 245 250 255  
 Pro Pro Ala Trp Leu Leu Met Leu Cys Gln Ala Pro Arg Pro Gln Asp  
 260 265 270  
 Pro Asp Pro Arg Leu Thr Gln Pro Glu Lys Ser Leu Gln Glu Ala Pro  
 275 280 285  
 Gly Gln Thr Gly Ala Ser Arg Thr Pro Arg Thr  
 290 295

&lt;210&gt; 5629

&lt;211&gt; 428

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5629

gtgcacgacc ccactgaatc atcccacaac catggatggg agacacactc agtctccttt  
 60  
 aacagaagat aaagctgggg cttacagaga atgtacaact tggcccaggg cacaccagtt  
 120  
 agccatcagg ggcagngctg ctattcaggt ctgggactgt gggactccag agcccatggt  
 180  
 ttttacgagg atgccatact gccacaatgg atggtgtctt tatctctga tatatgattg  
 240  
 tgtgttgga ggcgtgggt ggcagctgga agaattggaga ggcataattg tggaggatct  
 300  
 tccccattc tctgtaccc tctcttgag ctcccagttc catctgagaa attatctact  
 360  
 ctgagaaatc gtcacaacac agcatggttg tgagtgcagt ggcagaagcc tgtgcctggt  
 420  
 tgtatggg  
 428

&lt;210&gt; 5630

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5630

Met Asp Gly Arg His Thr Gln Ser Pro Leu Thr Glu Asp Lys Ala Gly  
 1 5 10 15  
 Ala Tyr Arg Glu Cys Thr Thr Trp Pro Arg Ala His Gln Leu Ala Ile

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Arg | Gly | Xaa | Ala | Ala | Ile | Gln | Val | Trp | Asp | Cys | Gly | Thr | Pro | Glu | Pro |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Met | Phe | Phe | Thr | Arg | Met | Pro | Tyr | Cys | His | Asn | Gly | Trp | Cys | Leu | Tyr |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Leu | Leu | Ile | Tyr | Asp | Cys | Val | Leu | Gly | Gly | Val | Gly | Trp | Gln | Leu | Glu |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Glu | Trp | Arg | Gly | Ile | Phe | Val | Glu | Asp | Leu | Pro | Pro | Phe | Ser | Ala | Thr |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Leu | Ser | Trp | Ser | Ser | Gln | Phe | His | Leu | Arg | Asn | Tyr | Leu | Leu |     |     |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |

<210> 5631

<211> 783

<212> DNA

<213> Homo sapiens

<400> 5631

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120
ctttttatta cgagtgaaca gatgaactaa ggtaagcggg tctcagcctt ccgctggtgc
180
agcatctcca cgcagggcct cagccccgtc ctggccttgc ctgaggactg caccatgggt
240
gttccttggg catggaggag gcagcaggaa ggggtgacag gagcaggagc aggtgcaggg
300
cacctcacac cacaggcctc cccacctct gagctgccaa cagccaagac tcctggcgag
360
gccggggagag gaggggtgag agggaaggag ggtctctgtg aaagcaagcc ccacccccag
420
agcagagcag agaccaggt ctgcaaata caccctcccc ccacgagttc ctcttttgag
480
gccagcagca cccgagggag ggcaggggct gcacagagac cagagaaagg aaaaccccac
540
agaagaaaac tcaaagcatc agtcccatgc gtgtctgctg aacgagtga tgggccc aaa
600
ggctcttctc taaaaacggc acgcatccat ccgacagggg gccacaggac acggccgggg
660
ccgtctgcgt ctgtgcctgt gcagcccaca ccagtgcagc ccggggccct ctcagacctc
720
accacacgcg tgcccagcac atgtgtgcac acgcagatgc aggagagaac acacaccacc
780
gtc
783

```

<210> 5632

<211> 183

<212> PRT

<213> Homo sapiens

<400> 5632

Met Gly Val Pro Trp Ala Trp Arg Arg Gln Gln Glu Gly Val Thr Gly

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|----|--|--|--|--|-----|-----|--|--|--|--|----|--|--|--|--|-----|-----|--|--|--|--|--|--|--|--|--|--|
| 1   |     |     |     |     |     |     |     |     |     |     | 5   |     |     |     |     |     |     |  |  |  |  | 10 |  |  |  |  |     |     |  |  |  |  | 15 |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
| Ala | Gly | Ala | Gly | Ala | Gly | His | Leu | Thr | Pro | Gln | Ala | Ser | Pro | Thr | Ser |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 20  |     |  |  |  |  |    |  |  |  |  | 25  |     |  |  |  |  |    |  |  |  |  | 30  |     |  |  |  |  |  |  |  |  |  |  |
| Glu | Leu | Pro | Thr | Ala | Lys | Thr | Pro | Gly | Glu | Ala | Gly | Arg | Gly | Gly | Val |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 35  |     |  |  |  |  |    |  |  |  |  | 40  |     |  |  |  |  |    |  |  |  |  | 45  |     |  |  |  |  |  |  |  |  |  |  |
| Arg | Gly | Lys | Glu | Gly | Leu | Cys | Glu | Ser | Lys | Pro | His | Pro | Gln | Ser | Arg |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 50  |     |  |  |  |  |    |  |  |  |  | 55  |     |  |  |  |  |    |  |  |  |  | 60  |     |  |  |  |  |  |  |  |  |  |  |
| Ala | Glu | Thr | Gln | Val | Cys | Lys | Ser | His | Pro | Pro | Pro | Thr | Ser | Ser | Ser |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
| 65  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 70  |  |  |  |  |    |  |  |  |  |     | 75  |  |  |  |  |    |  |  |  |  |     | 80  |  |  |  |  |  |  |  |  |  |  |
| Phe | Glu | Ala | Ser | Ser | Thr | Arg | Gly | Arg | Ala | Gly | Ala | Ala | Gln | Arg | Pro |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 85  |     |  |  |  |  |    |  |  |  |  | 90  |     |  |  |  |  |    |  |  |  |  | 95  |     |  |  |  |  |  |  |  |  |  |  |
| Glu | Lys | Gly | Lys | Pro | His | Arg | Arg | Lys | Leu | Lys | Ala | Ser | Val | Pro | Cys |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 100 |     |  |  |  |  |    |  |  |  |  | 105 |     |  |  |  |  |    |  |  |  |  | 110 |     |  |  |  |  |  |  |  |  |  |  |
| Val | Ser | Ala | Glu | Arg | Val | Asn | Gly | Pro | Lys | Gly | Ser | Ser | Leu | Gln | Thr |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 115 |     |  |  |  |  |    |  |  |  |  | 120 |     |  |  |  |  |    |  |  |  |  | 125 |     |  |  |  |  |  |  |  |  |  |  |
| Ala | Arg | Ile | His | Pro | Thr | Gly | Gly | His | Arg | Thr | Arg | Pro | Gly | Pro | Ser |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 130 |     |  |  |  |  |    |  |  |  |  | 135 |     |  |  |  |  |    |  |  |  |  | 140 |     |  |  |  |  |  |  |  |  |  |  |
| Ala | Ser | Val | Pro | Val | Gln | Pro | Thr | Pro | Val | Gln | Pro | Gly | Ala | Leu | Ser |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 150 |  |  |  |  |    |  |  |  |  |     | 155 |  |  |  |  |    |  |  |  |  |     | 160 |  |  |  |  |  |  |  |  |  |  |
| Asp | Leu | Thr | Thr | Arg | Val | Pro | Ser | Thr | Cys | Val | His | Thr | Gln | Met | Gln |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 165 |     |  |  |  |  |    |  |  |  |  | 170 |     |  |  |  |  |    |  |  |  |  | 175 |     |  |  |  |  |  |  |  |  |  |  |
| Glu | Arg | Thr | His | Thr | Thr | Val |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 180 |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |    |  |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |

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<210> 5633
<211> 2181
<212> DNA
<213> Homo sapiens
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120
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180
tgagcggggt ctgagtgtg gggccgctgg tctgctctgc ctgggtgggat tctccagtgc
240
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300
aatccatccc tagagtccac aggagatcta gggcagagtt tccaagctgc agctgctctg
360
gccctgtgtg agctgtgtgt ctgaggaagc cccaggctga ggtagctacc aggcggaggc
420
tggttttggg ggcctccaca tcaggaatt gagcggtagg ggtttcagcc ttcacgttgg
480
tcgcgcact gtatgggaag tggggctctg ggtctgcttg cccagtctca ccgtcctctt
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600
ctgggtgtca tcgagggcat gggccgtgct gtccacacaa actaccacgc agccctgcgc
660
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720

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cggtctttca ggcctatctt caagtacgag gtcccagccg agtgaggcgc tgcagctgcc  
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840  
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900  
ttgtcagggg gctactcctt agagggacag aggtcatcct ggcgtgcaac tcaggccccg  
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1020  
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1080  
ccggatccct actccaaagt gaagcagcgg gagaatggcg tggcgctgag gtgcttcccc  
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1200  
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1980  
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2160  
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2181

&lt;210&gt; 5634

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5634

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20           25           30
Phe Asn Phe Pro Asp Pro Tyr Ser Lys Val Lys Gln Arg Glu Asn Gly
35           40           45
Val Ala Leu Arg Cys Phe Pro Gly Val Val Arg Ser Leu Asp Ala Leu
50           55           60
Gly Trp Glu Glu Arg Gln Leu Ala Leu Val Lys Gly Leu Leu Ala Gly
65           70           75           80
Asn Val Phe Asp Trp Gly Ala Lys Ala Val Ser Ala Val Leu Glu Ser
85           90           95
Asp Pro Tyr Phe Gly Phe Glu Glu Ala Lys Arg Lys Leu Gln Glu Arg
100          105          110
Pro Trp Leu Val Asp Ser Tyr Ser Glu Trp Leu Gln Arg Leu Lys Gly
115          120          125
Pro Pro His Lys Cys Ala Leu Ile Phe Ala Asp Asn Ser Gly Ile Asp
130          135          140
Ile Ile Leu Gly Val Phe Pro Phe Val Arg Glu Leu Leu Leu Arg Gly
145          150          155          160
Thr Glu Val Ile Leu Ala Cys Asn Ser Gly Pro Ala Leu Asn Asp Val
165          170          175
Thr His Ser Glu Ser Leu Ile Val Ala Glu Arg Ile Ala Gly Met Asp
180          185          190
Pro Val Val His Ser Ala Leu Gln Glu Glu Arg Leu Leu Leu Val Gln
195          200          205
Thr Gly Ser Ser Ser Pro Cys Leu Asp Leu Ser Arg Leu Asp Lys Gly
210          215          220
Leu Ala Ala Leu Val Arg Glu Arg Gly Ala Asp Leu Val Val Ile Glu
225          230          235          240
Gly Met Gly Arg Ala Val His Thr Asn Tyr His Ala Ala Leu Arg Cys
245          250          255
Glu Ser Leu Lys Leu Ala Val Ile Lys Asn Ala Trp Leu Ala Glu Arg
260          265          270
Leu Gly Gly Arg Leu Phe Ser Val Ile Phe Lys Tyr Glu Val Pro Ala
275          280          285
Glu

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&lt;210&gt; 5635

&lt;211&gt; 614

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5635

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gcactcatca atggtgatga aaacctggcc tgccaaatat atgaaaacaa tcctcagcta
180

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 cattatgctg ctagacatgg aatgaataaa atattaggag atgatttcag aagagcagat  
 300  
 tgtctgcaga tgatcttaaa atggaaagga gcaaaacttg accaggggtga atatgagaga  
 360  
 gcagctattg atgctgttga taacaaaaaa aacacaccct tgcactatgc tgctgcctca  
 420  
 gggatgaaag cctgtgtaga aaaacatgga ggagacttgt ttgctgagaa tgaaaataaa  
 480  
 gatactcctt gtgattgtgc tgaaaagcaa caccacaaag atttggccct caatctggaa  
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 614

<210> 5636

<211> 204

<212> PRT

<213> Homo sapiens

<400> 5636

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Val | Lys | Asp | Val | Ala | Glu | Val | Phe | Gln | Lys | Trp | Leu | Lys | Ile | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Lys | Lys | Cys | His | Cys | Leu | Ser | Glu | Lys | Thr | Lys | Gln | Asn | Met | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Thr | Thr | Thr | Lys | Phe | Arg | Lys | Ala | Leu | Ile | Asn | Gly | Asp | Glu | Asn |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ala | Cys | Gln | Ile | Tyr | Glu | Asn | Asn | Pro | Gln | Leu | Lys | Glu | Ser | Leu |
|     | 50  |     |     |     |     | 55  |     |     | 60  |     |     |     |     |     |     |
| Asp | Pro | Asn | Thr | Ser | Tyr | Gly | Glu | Pro | Tyr | Gln | His | Asn | Thr | Pro | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| His | Tyr | Ala | Ala | Arg | His | Gly | Met | Asn | Lys | Ile | Leu | Gly | Asp | Asp | Phe |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Arg | Ala | Asp | Cys | Leu | Gln | Met | Ile | Leu | Lys | Trp | Lys | Gly | Ala | Lys |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Leu | Asp | Gln | Gly | Glu | Tyr | Glu | Arg | Ala | Ala | Ile | Asp | Ala | Val | Asp | Asn |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Lys | Lys | Asn | Thr | Pro | Leu | His | Tyr | Ala | Ala | Ala | Ser | Gly | Met | Lys | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Val | Glu | Lys | His | Gly | Gly | Asp | Leu | Phe | Ala | Glu | Asn | Glu | Asn | Lys |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Asp | Thr | Pro | Cys | Asp | Cys | Ala | Glu | Lys | Gln | His | His | Lys | Asp | Leu | Ala |
|     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |     |
| Leu | Asn | Leu | Glu | Ser | Gln | Met | Val | Phe | Ser | Arg | Asp | Pro | Glu | Ala | Glu |
|     | 180 |     |     |     |     | 185 |     |     |     |     |     |     | 190 |     |     |
| Glu | Ile | Glu | Ala | Glu | Tyr | Ala | Ala | Leu | Asp | Lys | Arg |     |     |     |     |
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<210> 5637

<211> 825

<212> DNA

<213> Homo sapiens

&lt;400&gt; 5637

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 120  
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 360  
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 420  
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 480  
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 720  
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 780  
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 825

&lt;210&gt; 5638

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5638

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Cys | Gly | Asn | Arg | Ser | Gln | Asp | Pro | Val | Glu | Asn | Pro | Arg | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Asn | Ile | Asn | Lys | Ser | Asp | Ser | His | Ser | Pro | Thr | Val | Leu | Ala | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Thr | Gly | Ala | Arg | Trp | Phe | Cys | Asp | Pro | Ser | Gln | Ala | His | Ala | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ala | Gly | Arg | Leu | Ala | Arg | Ala | Pro | Leu | Trp | Leu | Ala | Cys | Gly | Asp |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Trp | Ala | Leu | Leu | His | Val | Pro | Thr | Arg | Ala | Val | Ala | Gly | Ser | Lys |
|     |     | 65  |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Ala | Gln | Pro | Arg | Pro | Ala | Cys | Val | Asp | Pro | Ala | Gly | Leu | Arg | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Pro | Glu | Leu | Leu | Thr | Val | Ser | Glu | Pro | Gly | Cys | Pro | Ala | Pro | Arg | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Pro | Ser | Ser | Cys | Pro | Ala | Trp | Asp | Pro | Ser | Ala | Val | Cys | Leu | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Asn | Gln | Gly | Val |     |     |     |     |     |     |     |     |     |     |     |     |

130

&lt;210&gt; 5639

&lt;211&gt; 2433

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5639

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atttgacatt tcttcttcca catccagtgt atctgacatt tagcgcacat ttgatttgca  
180  
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1380

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 2433

&lt;210&gt; 5640

&lt;211&gt; 540

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5640

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Cys | Pro | Ser | Pro | Glu | Arg | Gln | Glu | Asp | Gly | Ala | Arg | Lys | Asp | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Ser | Arg | Leu | Ala | Ala | Gly | Pro | Thr | Phe | Gln | His | Phe | Leu | Lys | Ser |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ala | Ser | Ala | Pro | Gln | Glu | Lys | Leu | Ser | Ser | Glu | Val | Glu | Asp | Pro | Pro |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Tyr | Leu | Met | Met | Asp | Glu | Leu | Leu | Gly | Arg | Gln | Arg | Lys | Val | Tyr |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Glu | Thr | Tyr | Gly | Cys | Gln | Met | Asn | Val | Asn | Asp | Thr | Glu | Ile | Ala |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Trp | Ser | Ile | Leu | Gln | Lys | Ser | Gly | Tyr | Leu | Arg | Pro | Val | Thr | Ser | Lys |

85 90 95  
 Ala Asp Val Ile Leu Leu Val Thr Cys Ser Ile Arg Glu Lys Ala Glu  
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 Gln Thr Ile Trp Asn Arg Leu His Gln Leu Lys Ala Leu Lys Thr Arg  
 115 120 125  
 Arg Pro Arg Ser Arg Val Pro Leu Arg Ile Gly Ile Leu Gly Cys Met  
 130 135 140  
 Ala Glu Arg Leu Lys Glu Glu Ile Leu Asn Arg Glu Lys Met Val Asp  
 145 150 155 160  
 Ile Leu Ala Gly Pro Asp Ala Tyr Arg Asp Leu Pro Arg Leu Leu Ala  
 165 170 175  
 Val Ala Glu Ser Gly Gln Gln Ala Ala Asn Val Leu Leu Ser Leu Asp  
 180 185 190  
 Glu Thr Tyr Ala Asp Val Met Pro Val Gln Thr Ser Ala Ser Ala Thr  
 195 200 205  
 Ser Ala Phe Val Ser Ile Met Arg Gly Cys Asp Asn Met Cys Ser Tyr  
 210 215 220  
 Cys Ile Val Pro Phe Thr Arg Gly Arg Glu Arg Ser Arg Pro Ile Ala  
 225 230 235 240  
 Ser Ile Leu Glu Glu Val Lys Lys Leu Ser Glu Gln Gly Leu Lys Glu  
 245 250 255  
 Val Thr Leu Leu Gly Gln Asn Val Asn Ser Phe Arg Asp Asn Ser Glu  
 260 265 270  
 Val Gln Phe Asn Ser Ala Val Pro Thr Asn Leu Ser Arg Gly Phe Thr  
 275 280 285  
 Thr Asn Tyr Lys Thr Lys Gln Gly Gly Leu Arg Phe Ala His Leu Leu  
 290 295 300  
 Asp Gln Val Ser Arg Val Asp Pro Glu Met Arg Ile Arg Phe Thr Ser  
 305 310 315 320  
 Pro His Pro Lys Asp Phe Pro Asp Glu Val Leu Gln Leu Ile His Glu  
 325 330 335  
 Arg Asp Asn Ile Cys Lys Gln Ile His Leu Pro Ala Gln Ser Gly Ser  
 340 345 350  
 Ser Arg Val Leu Glu Ala Met Arg Arg Gly Tyr Ser Arg Glu Ala Tyr  
 355 360 365  
 Val Glu Leu Val His His Ile Arg Glu Ser Ile Pro Gly Val Ser Leu  
 370 375 380  
 Ser Ser Asp Phe Ile Ala Gly Phe Cys Gly Glu Thr Glu Glu Asp His  
 385 390 395 400  
 Val Gln Thr Val Ser Leu Leu Arg Glu Val Gln Tyr Asn Met Gly Phe  
 405 410 415  
 Leu Phe Ala Tyr Ser Met Arg Gln Lys Thr Arg Ala Tyr His Arg Leu  
 420 425 430  
 Lys Asp Asp Val Pro Glu Glu Val Lys Leu Arg Arg Leu Glu Glu Leu  
 435 440 445  
 Ile Thr Ile Phe Arg Glu Glu Ala Thr Lys Ala Asn Gln Thr Ser Val  
 450 455 460  
 Gly Cys Thr Gln Leu Val Leu Val Glu Gly Leu Ser Lys Arg Ser Ala  
 465 470 475 480  
 Thr Asp Leu Cys Gly Arg Asn Asp Gly Asn Leu Lys Val Ile Phe Pro  
 485 490 495  
 Asp Ala Glu Met Glu Asp Val Asn Asn Pro Gly Leu Arg Val Arg Ala  
 500 505 510  
 Gln Pro Gly Asp Tyr Val Leu Val Lys Ile Thr Xaa Gln Pro Val Leu

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
|     | 515 |     | 520 |     | 525 |
| Arg | His | Leu | Gly | Asp | Met |
|     |     | Phe | Ser | Ala | Gly |
|     |     |     | Pro | Leu |     |
| 530 |     | 535 |     | 540 |     |

<210> 5641  
 <211> 293  
 <212> DNA  
 <213> Homo sapiens

<400> 5641  
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 cagggtggcg aggaggtgtg gctggctggg gcacccctgg catccctgga gagccaggtg  
 180  
 aggagggcag atacaagcag aaattccagt cagtgttcac ggtcactcgg cagaccacc  
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 agccccctgc acccaacagc ctgatcagat tcaacgcggg cctcaccaac ccg  
 293

<210> 5642  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 5642  
 Ala Ser His Thr Ala Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val  
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 Ser Gly Gly Val Leu Leu Arg Leu Gln Val Gly Glu Glu Val Trp Leu  
 35 40 45  
 Ala Gly Ala Pro Leu Ala Ser Leu Glu Ser Gln Val Arg Arg Ala Asp  
 50 55 60  
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 Ser Pro Leu His Pro Thr Ala  
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<210> 5643  
 <211> 1218  
 <212> DNA  
 <213> Homo sapiens

<400> 5643  
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 aaagctcaag atctcttaag ggcagtccca agatccagag cagagatgta tgatgacgtc  
 240

cacagcgatg gcagatactc cctcagtgga tctgtagctc actctagaga tgccggaaga  
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 360  
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 420  
 tctcgggacc aggtcattgg ccaccggaaa ttggggcatt tccgtttctca ggactggaaa  
 480  
 tttgcgctcc gtggttcttg ggaacaagac tttggccatc cagttttctca agagtcctct  
 540  
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 780  
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 840  
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 900  
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 1080  
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 1140  
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 1218

&lt;210&gt; 5644

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5644

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Glu | Gln | Asp | Phe | Gly | His | Pro | Val | Ser | Gln | Glu | Ser | Ser | Trp | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gln | Glu | Tyr | Ser | Phe | Gly | Pro | Ser | Ala | Val | Leu | Gly | Asp | Phe | Gly | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Arg | Leu | Ile | Glu | Lys | Glu | Cys | Leu | Glu | Lys | Glu | Ser | Arg | Asp | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Val | Asp | His | Pro | Gly | Glu | Ala | Asp | Ser | Val | Leu | Arg | Gly | Ser | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Val | Gln | Ala | Arg | Gly | Arg | Ala | Leu | Asn | Ile | Val | Asp | Gln | Glu | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Leu | Gly | Lys | Gly | Glu | Thr | Gln | Gly | Leu | Leu | Thr | Ala | Lys | Gly |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Val | Gly | Lys | Leu | Val | Thr | Leu | Arg | Asn | Val | Ser | Thr | Lys | Lys | Ile |

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      100              105              110
Pro Thr Val Asn Arg Ile Thr Pro Lys Thr Gln Gly Thr Asn Gln Ile
      115              120              125
Gln Lys Asn Thr Pro Ser Pro Asp Val Thr Leu Gly Thr Asn Pro Gly
      130              135              140
Thr Glu Asp Ile Gln Phe Pro Ile Gln Lys Ile Pro Leu Gly Leu Asp
145              150              155              160
Leu Lys Asn Leu Arg Leu Pro Arg Arg Lys Met Ser Phe Asp Ile Ile
      165              170              175
Asp Lys Ser Asp Val Phe Ser Arg Phe Gly Ile Glu Ile Ile Lys Trp
      180              185              190
Ala Gly Phe His Thr Ile Lys Leu Asp Tyr
      195              200

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 <211> 156  
 <212> DNA  
 <213> Homo sapiens

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 156

<210> 5646  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

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<400> 5646
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Thr Ser Thr Gly Lys Phe Thr Cys Lys Val Pro Gly Leu Tyr Tyr Phe
      35              40              45
Val Tyr His Ala
      50

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<210> 5647  
 <211> 150  
 <212> DNA  
 <213> Homo sapiens

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 aagggagaac ccggcttacc cggccatccn  
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<210> 5648  
 <211> 50  
 <212> PRT  
 <213> Homo sapiens

<400> 5648  
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 His Pro  
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<210> 5649  
 <211> 345  
 <212> DNA  
 <213> Homo sapiens

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 ccgtggggcc ctccgacttc gggccgcgca gtatcgaccc cacactcaca cgctcttcg  
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<210> 5650  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 5650  
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 20 25 30  
 Ala Arg Ala Ala Cys Ser Ala Arg Arg Ser Ser Thr Ala Val Thr Ser  
 35 40 45  
 Trp Cys Arg Arg Arg Thr Ala Thr Arg Cys Pro Gly Gly Ala Thr Arg  
 50 55 60  
 Arg Val Arg Gly Ala Leu Arg Leu Arg Ala Ala Gln Tyr Arg Pro His  
 65 70 75 80  
 Thr His Thr Pro Leu Arg Val Leu Glu Pro Gly Leu Gln Trp Gln Ala  
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 Gly Val Ser Gln

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<210> 5651  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

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 420  
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<210> 5652  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 5652  
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 Asp Asn Lys Thr Tyr Leu Ile Arg Leu Gln Lys Pro Asp Phe Lys Ala  
 35 40 45  
 Thr Leu Leu Leu Glu Ser Gly Ile Gln Ile His Thr Thr Glu Phe Glu  
 50 55 60  
 Trp Pro Lys Asn Met Met Pro Ser Ser Phe Ala Met Lys Cys Arg Lys  
 65 70 75 80  
 His Leu Lys Ser Arg Arg Leu Val Ser Ala Lys Gln Leu Gly Val Asp  
 85 90 95  
 Arg Ile Val Asp Phe Gln Phe Gly Ser Asp Glu Ala Ala Tyr His Leu  
 100 105 110  
 Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile Val Leu Thr Asp Tyr Glu  
 115 120 125  
 Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg Thr Asp Glu Ala Asp Asp

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Val Lys Phe Ala Val Arg Glu Arg Tyr Pro Leu Asp His Ala Arg Ala |     |     |
| 145   | 150 | 155 |
| Ala Glu Pro   |     | 160 |

&lt;210&gt; 5653

&lt;211&gt; 1439

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5653

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1260

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<210> 5654  
 <211> 245  
 <212> PRT  
 <213> Homo sapiens

<400> 5654  
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 Ile Pro Gly Ile Arg Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Leu  
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 Pro Gly His Pro Gly Lys Asn Gly Pro Met Gly Pro Pro Gly Met Pro  
 85 90 95  
 Gly Val Pro Gly Pro Met Gly Ile Pro Gly Glu Pro Gly Glu Gly  
 100 105 110  
 Arg Tyr Lys Gln Lys Phe Gln Ser Val Phe Thr Val Thr Arg Gln Thr  
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 His Gln Pro Pro Ala Pro Asn Ser Leu Ile Arg Phe Asn Ala Val Leu  
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 Thr Asn Pro Gln Gly Asp Tyr Asp Thr Ser Thr Gly Lys Phe Thr Cys  
 145 150 155 160  
 Lys Val Pro Gly Leu Tyr Tyr Phe Val Tyr His Ala Ser His Thr Ala  
 165 170 175  
 Asn Leu Cys Val Leu Leu Tyr Arg Ser Gly Val Lys Val Val Thr Phe  
 180 185 190  
 Cys Gly His Thr Ser Lys Thr Asn Gln Val Asn Ser Gly Gly Val Leu  
 195 200 205  
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<210> 5655  
 <211> 3810  
 <212> DNA  
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1620
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1680

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3300

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&lt;210&gt; 5656

&lt;211&gt; 987

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5656

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Leu | Glu | Glu | Asp | Glu | Leu | Leu | Glu | Gln | Lys | Phe | Gln | Glu | Ala |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Gly | Gln | Ala | Gly | Xaa | Pro | Ser | Pro | Ser | Xaa | Ser | Lys | Ala | Glu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Glu | Val | Arg | Arg | Glu | Trp | Ala | Lys | Tyr | Met | Glu | Val | His | Glu | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Ser | Phe | Thr | Asn | Ser | Glu | Leu | His | Arg | Ala | Met | Asn | Leu | His | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Asn | Leu | Arg | Leu | Leu | Ser | Gly | Pro | Leu | Asp | Gln | Val | Arg | Ala | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Pro | Thr | Pro | Ala | Leu | Ser | Pro | Glu | Asp | Lys | Ala | Val | Leu | Gln | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Lys | Arg | Ile | Leu | Ala | Lys | Val | Gln | Glu | Met | Arg | Asp | Gln | Arg | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ser | Leu | Glu | Gln | Gln | Leu | Arg | Glu | Leu | Ile | Gln | Lys | Asp | Asp | Ile | Thr |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ala | Ser | Leu | Val | Thr | Thr | Asp | His | Ser | Glu | Met | Lys | Lys | Leu | Phe | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Gln | Leu | Lys | Lys | Tyr | Asp | Gln | Leu | Lys | Val | Tyr | Leu | Glu | Gln | Asn |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Ala | Ala | Gln | Asp | Arg | Val | Leu | Cys | Ala | Leu | Thr | Glu | Ala | Asn | Val |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln | Tyr | Ala | Ala | Val | Arg | Arg | Val | Leu | Ser | Asp | Leu | Asp | Gln | Lys | Trp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Asn | Ser | Thr | Leu | Gln | Thr | Leu | Val | Ala | Ser | Tyr | Glu | Ala | Tyr | Glu | Asp |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Met | Lys | Lys | Ser | Gln | Glu | Gly | Arg | Asp | Phe | Tyr | Ala | Asp | Leu | Glu |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Ser | Lys | Val | Ala | Ala | Leu | Leu | Glu | Arg | Thr | Gln | Ser | Thr | Cys | Gln | Ala |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Arg | Glu | Ala | Ala | Arg | Gln | Gln | Leu | Leu | Asp | Arg | Glu | Leu | Lys | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |
| Pro | Pro | Pro | Arg | Pro | Thr | Ala | Pro | Lys | Pro | Leu | Leu | Pro | Arg | Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |
| Glu | Ser | Glu | Ala | Val | Glu | Ala | Gly | Asp | Pro | Pro | Glu | Glu | Leu | Arg |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |
| Leu | Pro | Pro | Asp | Met | Val | Ala | Gly | Pro | Arg | Leu | Pro | Asp | Thr | Phe |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |
| Gly | Ser | Ala | Thr | Pro | Leu | His | Phe | Pro | Pro | Ser | Pro | Phe | Pro | Ser |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |
| Thr | Gly | Pro | Gly | Pro | His | Tyr | Leu | Ser | Gly | Pro | Leu | Pro | Pro | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |
| Tyr | Ser | Gly | Pro | Thr | Gln | Leu | Ile | Gln | Pro | Arg | Ala | Pro | Gly | Pro |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |
| Ala | Met | Pro | Val | Ala | Pro | Gly | Pro | Ala | Leu | Tyr | Pro | Ala | Pro | Ala |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |
| Thr | Pro | Glu | Leu | Gly | Leu | Val | Pro | Arg | Ser | Ser | Pro | Gln | His | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |
| Val | Ser | Ser | Pro | Tyr | Val | Gly | Val | Gly | Pro | Ala | Pro | Pro | Val | Ala |
| 385 |     |     |     |     | 390 |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Pro | Ser | Ala | Pro | Pro | Pro | Gln | Phe | Ser | Gly | Pro | Glu | Leu | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |
| Ala | Val | Arg | Pro | Ala | Thr | Thr | Thr | Val | Asp | Ser | Ile | Gln | Ala | Pro |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |
| Pro | Ser | His | Thr | Ala | Pro | Arg | Pro | Asn | Pro | Thr | Pro | Ala | Pro | Pro |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |
| Pro | Cys | Phe | Pro | Val | Pro | Pro | Gln | Pro | Leu | Pro | Thr | Pro | Tyr | Thr |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |
| Tyr | Pro | Ala | Gly | Ala | Lys | Gln | Pro | Ile | Pro | Ala | Gln | His | His | Phe |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |
| Ser | Gly | Ile | Pro | Thr | Gly | Phe | Pro | Ala | Pro | Arg | Ile | Gly | Pro | Gln |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |
| Gln | Pro | His | Pro | Gln | Pro | His | Pro | Ser | Gln | Ala | Phe | Gly | Pro | Gln |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |
| Pro | Gln | Gln | Pro | Leu | Pro | Leu | Gln | His | Pro | His | Leu | Phe | Pro | Pro |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |
| Ala | Pro | Gly | Leu | Leu | Pro | Pro | Gln | Ser | Pro | Tyr | Pro | Tyr | Ala | Pro |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |
| Pro | Gly | Val | Leu | Gly | Gln | Pro | Pro | Pro | Pro | Leu | His | Thr | Gln | Leu |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560 |
| Pro | Gly | Pro | Ala | Gln | Asp | Pro | Leu | Pro | Ala | His | Ser | Gly | Ala | Leu |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |
| Phe | Pro | Ser | Pro | Gly | Pro | Pro | Gln | Pro | Pro | His | Pro | Pro | Leu | Ala |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |
| Gly | Pro | Ala | Pro | Ser | Thr | Arg | Pro | Met | Gly | Pro | Gln | Ala | Ala | Pro |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |
| Thr | Ile | Arg | Gly | Pro | Ser | Ser | Ala | Gly | Gln | Ser | Thr | Pro | Ser | Pro |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |
| Leu | Val | Pro | Ser | Pro | Ala | Pro | Ser | Pro | Gly | Pro | Gly | Pro | Val | Pro |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     | 640 |
| Arg | Pro | Pro | Ala | Ala | Glu | Pro | Pro | Pro | Cys | Leu | Arg | Arg | Gly | Ala |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |
| Ala | Ala | Asp | Leu | Leu | Ser | Ser | Ser | Pro | Glu | Ser | Gln | His | Gly | Gly |

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 Ala Glu Met Glu Lys Gln Lys Val Ala Arg Tyr Phe Pro Thr Glu Arg  
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 Gly Gln Pro Met Val His Gly Ala Leu Ser Leu Ala Leu Ser Ser Val  
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 Arg Ser Thr Glu Thr His Val Glu Arg Val Leu Ser Leu Gln Phe Arg  
 865 870 875 880  
 Asp Gln Ser Leu Lys Arg Ser Leu Val His Leu His Phe Pro Thr Trp  
 885 890 895  
 Pro Glu Leu Gly Leu Pro Asp Ser Pro Ser Asn Leu Leu Arg Phe Ile  
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 Ile Ile Val His Cys Ser Ser Gly Val Gly Arg Thr Gly Ala Phe Ala  
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 945 950 955 960  
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&lt;210&gt; 5657

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5657

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&lt;211&gt; 301

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5658

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Arg | His | Gly | Lys | Asn | Cys | Thr | Ala | Gly | Ala | Val | Tyr | Thr | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| His | Glu | Lys | Lys | Lys | Asp | Thr | Ala | Ala | Ser | Gly | Tyr | Gly | Thr | Gln | Asn |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Arg | Leu | Ser | Arg | Asp | Ala | Val | Lys | Asp | Phe | Asp | Cys | Cys | Cys | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Leu | Gln | Pro | Cys | His | Asp | Pro | Val | Val | Thr | Pro | Asp | Gly | Tyr | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Glu | Arg | Glu | Ala | Ile | Leu | Glu | Tyr | Ile | Leu | His | Gln | Lys | Lys | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Ala | Arg | Gln | Met | Lys | Ala | Tyr | Glu | Lys | Gln | Arg | Gly | Thr | Arg | Arg |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Glu | Gln | Lys | Glu | Leu | Gln | Arg | Ala | Ala | Ser | Gln | Asp | His | Val | Arg |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Phe | Leu | Glu | Lys | Glu | Ser | Ala | Ile | Val | Ser | Arg | Pro | Leu | Asn | Pro |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
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|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
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|   |     |     |     |     |     |     |
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| 145   |     | 150 |     | 155 |     | 160 |
| Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu |     |     |     |     |     |     |
|   | 165 |     | 170 |     | 175 |     |
| Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu |     |     |     |     |     |     |
|   | 180 |     | 185 |     | 190 |     |
| Arg Met Ser Asp Leu Thr Pro Val His Phe Thr Pro Leu Asp Ser Ser |     |     |     |     |     |     |
|   | 195 |     | 200 |     | 205 |     |
| Val Asp Arg Val Gly Leu Ile Thr Arg Ser Glu Arg Tyr Val Cys Ala |     |     |     |     |     |     |
|   | 210 |     | 215 |     | 220 |     |
| Val Thr Arg Asp Ser Leu Ser Asn Ala Thr Pro Cys Ala Val Leu Arg |     |     |     |     |     |     |
|   | 225 |     | 230 |     | 235 |     |
| Pro Ser Gly Ala Val Val Thr Leu Glu Cys Val Glu Lys Leu Ile Arg |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Lys Asp Met Val Asp Pro Val Thr Gly Asp Lys Leu Thr Asp Arg Asp |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Ile Ile Val Leu Gln Arg Gly Gly Thr Gly Phe Ala Gly Ser Gly Val |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Lys Leu Gln Ala Glu Lys Ser Arg Pro Val Met Gln Ala             |     |     |     |     |     |     |
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&lt;211&gt; 1263

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5659

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 Val Lys Leu Asn Leu Leu Ile Thr Gly Lys Ile Val Asp His Gly Asn  
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 Arg Ile Glu Tyr Glu Lys Val Asp Lys Ala Thr Lys Asn Thr Leu Cys  
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 Thr Gly Pro Asp Leu Pro His Pro Gly Pro Asp Gly His Leu Asp Thr  
 50 55 60  
 His Ser Gly Leu Ser Ser Asn Ser Ser Met Thr Thr Arg Glu Leu Gln  
 65 70 75 80  
 Gln Tyr Trp Gln Asn Gln Lys Cys Arg Trp Lys His Val Lys Leu Leu  
 85 90 95  
 Phe Glu Ile Ala Ser Ala Arg Ile Glu Glu Arg Lys Val Ser Lys Phe  
 100 105 110  
 Val Met Gly Lys Ser Arg Pro Gly Glu Met Thr Tyr Pro Gly Ser Arg  
 115 120 125  
 Gly Glu Thr Gly Thr Ala Pro Glu Pro Asp Pro Arg Cys Pro Arg Gln  
 130 135 140  
 Ser Asp Met Leu

145

&lt;210&gt; 5663

&lt;211&gt; 857

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5663

tttttttttt tttttttgca gtaagtaact cagaatgact ttactcagga aatatgacca  
 60  
 tgactcactg gctaggagtg ccccatgccc agttcttaga gacccttgat agctcctaga  
 120  
 agacaggagg ctgccgtggt caagaagggc caagccttga agtctcacgg caccctctgt  
 180  
 ggtggaggta taaggctcag gggccaacta ctgggtcttg cagtcccat cgttgctgtg  
 240  
 ggctgtcttc acctcttcta gttccttctg tagctcagac tcggccacca caacctcctt  
 300  
 tggcttctgg taagagatga tcagggtgca gttggcgtgg gcaaagctca gcaaggcgtc  
 360  
 atccagaggt agctggtgtc tatctagatc aggaatggag aacttcttgt agtacttctt  
 420  
 gttggttgtt ctgacaatga tgcagcgctc cttctggtcc acagagacac tatagacatc  
 480  
 cttaggatag gggaggtttc gaatccgcc a tggaaactc atcttggtgt ccttgcgcat  
 540  
 gaagatagga ttggcattgc tttccttgat gagttcaggc cccagggttc ctgctcctag  
 600  
 gggcgctggg tctcctactt caagctgcc a ctggcccatg gctcccaggg cacttttcac  
 660  
 acgccacttt ctcaacaagta gttcactcgt cttctcgtca tattcttcag ccatttcctt  
 720  
 gccgtctggg aataaatagt gaaccttcct tctcccgctc tgcagcagcg cagtcttctg  
 780  
 ggctgtccgc agactctcca accagcccgt caccgccatc tttcccctgc taagcagcac  
 840  
 gccagccgc tgccatg  
 857

&lt;210&gt; 5664

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5664

Met Ala Val Thr Gly Trp Leu Glu Ser Leu Arg Thr Ala Gln Lys Thr  
 1 5 10 15  
 Ala Leu Leu Gln Asp Gly Arg Arg Lys Val His Tyr Leu Phe Pro Asp  
 20 25 30  
 Gly Lys Glu Met Ala Glu Glu Tyr Asp Glu Lys Thr Ser Glu Leu Leu  
 35 40 45  
 Val Arg Lys Trp Arg Val Lys Ser Ala Leu Gly Ala Met Gly Gln Trp  
 50 55 60  
 Gln Leu Glu Val Gly Asp Pro Ala Pro Leu Gly Ala Gly Asn Leu Gly

```

65          70          75          80
Pro Glu Leu Ile Lys Glu Ser Asn Ala Asn Pro Ile Phe Met Arg Lys
          85          90          95
Asp Thr Lys Met Ser Phe Gln Trp Arg Ile Arg Asn Leu Pro Tyr Pro
          100          105          110
Lys Asp Val Tyr Ser Val Ser Val Asp Gln Lys Glu Arg Cys Ile Ile
          115          120          125
Val Arg Thr Thr Asn Lys Lys Tyr Tyr Lys Lys Phe Ser Ile Pro Asp
          130          135          140
Leu Asp Arg His Gln Leu Pro Leu Asp Asp Ala Leu Leu Ser Phe Ala
145          150          155          160
His Ala Asn Cys Thr Leu Ile Ile Ser Tyr Gln Lys Pro Lys Glu Val
          165          170          175
Val Val Ala Glu Ser Glu Leu Gln Lys Glu Leu Lys Lys Val Lys Thr
          180          185          190
Ala His Ser Asn Asp Gly Asp Cys Lys Thr Gln
          195          200

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<210> 5665  
 <211> 531  
 <212> DNA  
 <213> Homo sapiens

<400> 5665  
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 120  
 cagcgccct ctgaagtcac ttgcttcacg gaggtgttac tgtctgctgc tggacagagc  
 180  
 atgatggggg ctgcaagggc tccctcaaac cctggactcc tccaacagag ggctcctggt  
 240  
 tgccaggctc agctctgccc tgcgtcggcc ccagggcgta gggaggggtgt ttaatcctgg  
 300  
 cccgggcctt cccgcaggt ggagcgcgtg tcgcaccgc tgctgcagca gcagtatgag  
 360  
 ctgtaccggg agcgcttgcg gcagcgatgc gagcggcgcc cggtggagca ggtgctgtac  
 420  
 cacggcacga cggcaccggc agtgctgac atctgcgcc acggcttcaa ccgcagcttc  
 480  
 tgcggccgca acgccacggt ctacgggaag ggcgtgtatt tcgccaggcg c  
 531

<210> 5666  
 <211> 79  
 <212> PRT  
 <213> Homo sapiens

<400> 5666  
 Ser Trp Pro Gly Pro Ser Pro Gln Val Glu Arg Val Ser His Pro Leu  
 1 5 10 15  
 Leu Gln Gln Gln Tyr Glu Leu Tyr Arg Glu Arg Leu Leu Gln Arg Cys  
 20 25 30  
 Glu Arg Arg Pro Val Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro

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      35              40              45
Ala Val Pro Asp Ile Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly
      50              55              60
Arg Asn Ala Thr Val Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg
      65              70              75

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<210> 5667  
 <211> 858  
 <212> DNA  
 <213> Homo sapiens

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<400> 5667
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aagaaagata tgacatttct acatgaagga aatgactcca aagtagatgg tttagtaaac
120
tttgagaagt taagaatgat ttccaaggaa atccgccaag ttgttcgaat gacttctgct
180
aacatggacc cagctatgat gtttcgacag aggtcactga gtcaaggaag cacaaattca
240
aacatgctgg atgttcaggg aggtgctcac aaaaaaaggg cacgccgcag ctctctgctt
300
aatgccaaaga agctatatga ggatgccccaa atggcaagga aggtgaagca gtatctttcc
360
agtctcgatg tagagacaga tgaggagaag ttccagatga tgtcattaca gntggagcct
420
gcatatggta cctgtgagta caagttttca tttatgtgac gctaaagagc acaacaaaat
480
aaaaacttat ttctctagaa ttatacctaa gtcccaagaa aattaacttt cactcacaaa
540
agattgctgg cataccttaa gcatcatgtg atccaattaa tcacagactg aatcccatcc
600
attcctgatg gctacactat ccaaaaaata gagggataag tagatcttta aaaagctttt
660
taattctttt aaaaactgga tcattataga ggaggctttc tgtttgagaa catttttata
720
ttcatcccta aagagtaaac ataagtggaa tttttacctc tttttatttc atggataata
780
tttaccact agaaaatata agaaatttga ttaaaacacc agtgataata ggtagcttac
840
aggtgccagt agtaagggt
858

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<210> 5668  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

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<400> 5668
Xaa Ser Ala Arg Gly Ser Gln Ser Met Gln Pro Pro Ile Ile Pro Leu
1              5              10              15
Phe Pro Val Val Lys Lys Asp Met Thr Phe Leu His Glu Gly Asn Asp
      20              25              30
Ser Lys Val Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met Ile Ser

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[illegible]

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<210> 5669
<211> 1842
<212> DNA
<213> Homo sapiens
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|            |            |            |             |            |            |
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| <400> 5669 |            |            |             |            |            |
| tttgtgctgt | cacccggcac | agaccctgct | gccgacctct  | acaagtttgc | cgaagaaatg |
| 60         |            |            |             |            |            |
| aagttctcca | aaaagctctc | tgccatctcc | ctggggccagg | ggcagggccc | tcgggcagaa |
| 120        |            |            |             |            |            |
| gccatgatgc | gcagctccat | agagaggggc | aaatgggtct  | tcttccagaa | ctgccacctg |
| 180        |            |            |             |            |            |
| gcaccaagct | ggatgccagc | cctagaacgc | ctcatcgagc  | acatcaaccc | cgacaaggta |
| 240        |            |            |             |            |            |
| cacagggact | tccgcctctg | gctcaccagc | ctgcccagca  | acaagttccc | agtgtccatc |
| 300        |            |            |             |            |            |
| ctgcagaacg | gctccaagat | gaccattgag | ccgccacgcg  | gtgtcagggc | caacctgctg |
| 360        |            |            |             |            |            |
| aagtctcata | gtagccttgg | tgaagacttc | ctcaactcct  | gccacaaggt | gatggagttc |
| 420        |            |            |             |            |            |
| aagtctctgc | tgctgtctct | gtgcttgttc | catgggaacg  | ccctggagcg | ccgtaagttt |
| 480        |            |            |             |            |            |
| ggggcccttg | gcttcaacat | cccctatgag | ttcacggatg  | gagatctgcg | catctgcac  |
| 540        |            |            |             |            |            |
| agccagctca | agatgttcct | ggacgaatat | gatgacatcc  | cctacaaggt | cctcaagtac |
| 600        |            |            |             |            |            |
| acggcgaggg | agatcaatta | cgggggccgt | gtcactgatg  | actgggaccg | gcgctgcac  |
| 660        |            |            |             |            |            |
| atgaacatct | tggaggactt | ctacaaccct | gacgtgctct  | cccctgagca | cagctacagc |
| 720        |            |            |             |            |            |
| gcctcgggca | tctaccacca | gatcccgctt | acctacgacc  | tccacggcta | cctctcctac |
| 780        |            |            |             |            |            |
| atcaagagcc | tcccactcaa | tgatatgcct | gagatctttg  | gcctgcatga | caatgccaac |
| 840        |            |            |             |            |            |
| atcacctttg | cccagaacga | gacgttcgcc | ctcctgggca  | ccatcatcca | gctgcaaccc |
| 900        |            |            |             |            |            |
| aaatcatctt | ctgcaggcag | ccagggccgg | gaggagatag  | tggaggacgt | cacccaaaac |
| 960        |            |            |             |            |            |

attctgctca aggtgcctga gcctatcaac ttgcaatggg tgatggccaa gtacccagtg  
 1020  
 ctgtatgagg aatcaatgaa cacagtacta gtacaagagg tcattaggta caatcggtcg  
 1080  
 ctgcaggtga tcacacagac actgcaagac ctactcaagg cactcaaggg gctggtagtg  
 1140  
 atgtcctctc agctggagct gatggctgcc agcctgtaca acaatactgt gcctgagctc  
 1200  
 tggagtgcc aaggcctaccc atcgtctcaag cctctgtcat catgggtcat ggacctgctg  
 1260  
 caacgcctgg actttctgca ggcctggatc caagatggca tcccagctgt cttctggatc  
 1320  
 agtggattct tcttccccca ggctttctta acaggcactc tgcagaattt tgcccgcaaa  
 1380  
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 1440  
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 1500  
 cgctgggatc cagaggcctt ccagctggct gagtctcagc ccaaggagct gtacacagag  
 1560  
 atggccgtta tctggctctt gccaacaccc aaccgcaagg cccaggacca ggacttttac  
 1620  
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 1680  
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 1740  
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 1800  
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 1842

&lt;210&gt; 5670

&lt;211&gt; 591

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5670

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Leu | Ser | Pro | Gly | Thr | Asp | Pro | Ala | Ala | Asp | Leu | Tyr | Lys | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Glu | Glu | Met | Lys | Phe | Ser | Lys | Lys | Leu | Ser | Ala | Ile | Ser | Leu | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Gln | Gly | Gln | Gly | Pro | Arg | Ala | Glu | Ala | Met | Met | Arg | Ser | Ser | Ile | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Gly | Lys | Trp | Val | Phe | Phe | Gln | Asn | Cys | His | Leu | Ala | Pro | Ser | Trp |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Pro | Ala | Leu | Glu | Arg | Leu | Ile | Glu | His | Ile | Asn | Pro | Asp | Lys | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| His | Arg | Asp | Phe | Arg | Leu | Trp | Leu | Thr | Ser | Leu | Pro | Ser | Asn | Lys | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Val | Ser | Ile | Leu | Gln | Asn | Gly | Ser | Lys | Met | Thr | Ile | Glu | Pro | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Gly | Val | Arg | Ala | Asn | Leu | Leu | Lys | Ser | Tyr | Ser | Ser | Leu | Gly | Glu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Asp | Phe | Leu | Asn | Ser | Cys | His | Lys | Val | Met | Glu | Phe | Lys | Ser | Leu | Leu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Leu | Ser | Leu | Cys | Leu | Phe | His | Gly | Asn | Ala | Leu | Glu | Arg | Arg | Lys | Phe |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Gly | Pro | Leu | Gly | Phe | Asn | Ile | Pro | Tyr | Glu | Phe | Thr | Asp | Gly | Asp | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Arg | Ile | Cys | Ile | Ser | Gln | Leu | Lys | Met | Phe | Leu | Asp | Glu | Tyr | Asp | Asp |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |
| Ile | Pro | Tyr | Lys | Val | Leu | Lys | Tyr | Thr | Ala | Gly | Glu | Ile | Asn | Tyr | Gly |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Gly | Arg | Val | Thr | Asp | Asp | Trp | Asp | Arg | Arg | Cys | Ile | Met | Asn | Ile | Leu |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |
| Glu | Asp | Phe | Tyr | Asn | Pro | Asp | Val | Leu | Ser | Pro | Glu | His | Ser | Tyr | Ser |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Ala | Ser | Gly | Ile | Tyr | His | Gln | Ile | Pro | Pro | Thr | Tyr | Asp | Leu | His | Gly |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     | 255 |     |     |  |
| Tyr | Leu | Ser | Tyr | Ile | Lys | Ser | Leu | Pro | Leu | Asn | Asp | Met | Pro | Glu | Ile |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |     |     |     |  |
| Phe | Gly | Leu | His | Asp | Asn | Ala | Asn | Ile | Thr | Phe | Ala | Gln | Asn | Glu | Thr |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Phe | Ala | Leu | Leu | Gly | Thr | Ile | Ile | Gln | Leu | Gln | Pro | Lys | Ser | Ser | Ser |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Ala | Gly | Ser | Gln | Gly | Arg | Glu | Glu | Ile | Val | Glu | Asp | Val | Thr | Gln | Asn |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Ile | Leu | Leu | Lys | Val | Pro | Glu | Pro | Ile | Asn | Leu | Gln | Trp | Val | Met | Ala |  |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |  |
| Lys | Tyr | Pro | Val | Leu | Tyr | Glu | Glu | Ser | Met | Asn | Thr | Val | Leu | Val | Gln |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Glu | Val | Ile | Arg | Tyr | Asn | Arg | Leu | Leu | Gln | Val | Ile | Thr | Gln | Thr | Leu |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Gln | Asp | Leu | Leu | Lys | Ala | Leu | Lys | Gly | Leu | Val | Val | Met | Ser | Ser | Gln |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Leu | Glu | Leu | Met | Ala | Ala | Ser | Leu | Tyr | Asn | Asn | Thr | Val | Pro | Glu | Leu |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Trp | Ser | Ala | Lys | Ala | Tyr | Pro | Ser | Leu | Lys | Pro | Leu | Ser | Ser | Trp | Val |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Met | Asp | Leu | Leu | Gln | Arg | Leu | Asp | Phe | Leu | Gln | Ala | Trp | Ile | Gln | Asp |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Gly | Ile | Pro | Ala | Val | Phe | Trp | Ile | Ser | Gly | Phe | Phe | Phe | Pro | Gln | Ala |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Phe | Leu | Thr | Gly | Thr | Leu | Gln | Asn | Phe | Ala | Arg | Lys | Phe | Val | Ile | Ser |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Ile | Asp | Thr | Ile | Ser | Phe | Asp | Phe | Lys | Val | Met | Phe | Glu | Ala |     |     |  |

565
570
575  
His Trp Ile Lys Arg Gly Val Ala Leu Ile Cys Ala Leu Asp Tyr  
580
585
590

<210> 5671

<211> 818

<212> DNA

<213> Homo sapiens

<400> 5671

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120  
gttgccctatc tttgtcctct ctcttcgggc ttcgagatga atgtgcagcc ctgttctagg  
180  
tgtggggtatg gggtttatcc tgccgagaag atcagctgta tagatcagat atggcataaa  
240  
gcctgttttc actgtgaagt ttgcaagatg atgctgtctg ttaataactt tgtgagtcac  
300  
cagaaaaagc cgtactgtca cgcccataac cctaagaaca acactttcac cagtgtctat  
360  
cacactccat taaatctaaa tgtgaggaca tttccagagg ccatcagtgg gatccatgac  
420  
caagaagatg gtgaacagtg taaatcagtt tttcattggg acatgaaatc caaggataag  
480  
gaaggtgcac ctaacaggca gccactggca aatgagagag cctattggac tggatatggg  
540  
gaagggaatg cttggtgccc aggagctctg ccagaccccc aaattgtaag gatggttgag  
600  
gctcgaaagt ctcttggtga ggaatataca gaagactatg agcaaccag gggcaagggg  
660  
agctttccag ccatgatcac acctgcttat caaagggccca agaaagccaa ccagctggcc  
720  
agccaagtgg agtataagag agggcatgat gaacgcatct ccaggttctc cacgggtggcg  
780  
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818

<210> 5672

<211> 220

<212> PRT

<213> Homo sapiens

**<400> 5672**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Val | Gln | Pro | Cys | Ser | Arg | Tyr | Gly | Tyr | Gly | Val | Tyr | Pro | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Lys | Ile | Ser | Cys | Ile | Asp | Gln | Ile | Trp | His | Lys | Ala | Cys | Phe | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Glu | Val | Cys | Lys | Met | Met | Leu | Ser | Val | Asn | Asn | Phe | Val | Ser | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Gln | Lys | Lys | Pro | Tyr | Cys | His | Ala | His | Asn | Pro | Lys | Asn | Asn | Thr | Phe |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Ser | Val | Tyr | His | Thr | Pro | Leu | Asn | Leu | Asn | Val | Arg | Thr | Phe | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

Glu Ala Ile Ser Gly Ile His Asp Gln Glu Asp Gly Glu Gln Cys Lys  
                     85                    90                    95  
 Ser Val Phe His Trp Asp Met Lys Ser Lys Asp Lys Glu Gly Ala Pro  
                     100                    105                    110  
 Asn Arg Gln Pro Leu Ala Asn Glu Arg Ala Tyr Trp Thr Gly Tyr Gly  
                     115                    120                    125  
 Glu Gly Asn Ala Trp Cys Pro Gly Ala Leu Pro Asp Pro Glu Ile Val  
                     130                    135                    140  
 Arg Met Val Glu Ala Arg Lys Ser Leu Gly Glu Glu Tyr Thr Glu Asp  
 145                    150                    155                    160  
 Tyr Glu Gln Pro Arg Gly Lys Gly Ser Phe Pro Ala Met Ile Thr Pro  
                     165                    170                    175  
 Ala Tyr Gln Arg Ala Lys Lys Ala Asn Gln Leu Ala Ser Gln Val Glu  
                     180                    185                    190  
 Tyr Lys Arg Gly His Asp Glu Arg Ile Ser Arg Phe Ser Thr Val Ala  
                     195                    200                    205  
 Asp Thr Pro Glu Leu Leu Arg Ser Lys Ala Trp Gly  
                     210                    215                    220

&lt;210&gt; 5673

&lt;211&gt; 1279

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5673

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 60  
 gcagaaatca atatttttgt ttgaaagatg cagtcattgct aatttcactt ttggctaaaa  
 120  
 ccgagacgat aaaagaacag ttgggtgttt ataggatgcc ctcaaagtga gctggctaag  
 180  
 tgagctgggc tctaacttca ctcaaaatt tatagtacag ctaagaaggc cagtctgtcc  
 240  
 atgaaaggga gccgagacaa gacgagggcg gcctcttcca ggctgtgcc aagtgtcctt  
 300  
 ggggtcccg ccatggtccac acttctgcag catccgcaga acatgtggcc gggctctgcc  
 360  
 cagcagcagg gacagccaag tgggaggcag gcatggtgca cacctgggga ggccctggt  
 420  
 gcagaagcag cccacagta gcagcccat ccagaggaag accactccgg agggccacag  
 480  
 gcctctgcag ccctggcact gccgcccagc cctccatctc agcgggatgt gcagggtgag  
 540  
 acaggaatgc agggacgttc tgcccctagg tcagcctctt catccgcctg ttgtgcttcg  
 600  
 atggtcaagg ttgccctgtc cacagctgct gcaacgccat ccagggttc gtcttctctc  
 660  
 tccagctcac tctcggcctc cgggccagcc ccttcactct cctcaggatc tgggttagtt  
 720  
 cctgggtatc tgcctcagaa agggctggca ggcttgtctg cagggtgcagt gctgtgccct  
 780  
 cctgggtctc tgcggtggc tcacggtgca gggtacggcc catcagccca gatgctgcat  
 840

gccagactga gcagctcttc tctgcggggg aagaggttct tgcgcttctg agcaccaatg  
 900  
 catcttctaa cagctccatc ttcttgctga actgcacttc taaaatgggg ataacctctg  
 960  
 gcatcttggc agatatcaaa cgataggcca tgtctggctt tccaataaac cgctggcgga  
 1020  
 tgctaatttc gtaaggtagg tggaccttga tgcgtccac gtcttctctt tcaaacctgt  
 1080  
 gcatgagcaa agaactggag tcatgtattt ccaaccaga cacaaggacg gtgagcctcc  
 1140  
 ctgggttaac gtgagactct gttctgtggg aaataacagc aggaattttt atcagtatcc  
 1200  
 cttctttccc aaagggttca caactgggtca tggagacatc ttccctgggc tttgtttccg  
 1260  
 gtggtgtctt ccaaagctt  
 1279

&lt;210&gt; 5674

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5674

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | His | Ser | Gln | Ile | Tyr | Ser | Thr | Ala | Lys | Lys | Ala | Ser | Leu | Ser | Met |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Lys | Gly | Ser | Arg | Asp | Lys | Thr | Arg | Ala | Ala | Ser | Ser | Arg | Pro | Val | Pro |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Val | Leu | Gly | Val | Pro | Pro | Trp | Ser | Thr | Leu | Leu | Gln | His | Pro | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Met | Trp | Pro | Gly | Pro | Ala | Gln | Gln | Gln | Gly | Gln | Pro | Ser | Gly | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gln | Ala | Trp | Cys | Thr | Pro | Gly | Glu | Ala | Pro | Gly | Ala | Glu | Ala | Ala | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5675

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5675

nttttccact taaatacaaa ctttattctc tctccaagaa gatgcagacg tcacaggtgg  
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 ccctgagctc ccaccggagg cttaggccca aggggctctt tccaggctga gggcctgctg  
 120  
 gggctggggc aggggctgag gctgaaagca gcagcctgcc tagtgggtga cgccaggggc  
 180  
 cgggtgtaaca tggcaccgag gttggggcca cagcaatgtg tgggacggtg ggggtgggctg  
 240  
 gggcccttgg ctccaagcat tagttctcca agctctggtc cgttctccta cctccttcaa  
 300  
 ggggcaccag ggctacaagg tggtagttga gtattggggc ccgactcctg gggcactgga  
 360

gtgggtctcta ggcccaggagc cccaaggaga gggctgggtt tctgggagag tgctggctct  
 420  
 tcctctcttg gcttggccat cttgacagct tcatcgtagg aggggtggagg ctccgggggtg  
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 540  
 aaccgcatgc ccagtgggta ctgcacggag ctgtaggagg tcacagtgt gtgtacaggg  
 600  
 ctgtcactgt ccatagggat gactgccacg tcgcagggt gccgtgctgg tggcagatgt  
 660  
 ggctgggcct gtgcctgctt ccggaggcag cagaaccgga cacaaccagc tgtgacacca  
 720  
 cacagcagaa gcaggaggac cgccagcagg atgagcctag gagagcaagg ctctaccact  
 780  
 ggactgaccc tcggccaccg ggcacctgca ccctggggaa tgtcgtggca caaccaccga  
 840  
 agacagggtta acaggataaa aagcagacaa tgtctctcca tgcgggagac cgccgtggcc  
 900  
 agagcctggc ctccggctgc tgggcctgcc ctggctatct ctccctgggtt ggccaggggt  
 960  
 ggccttgggc tcaactcccag gactcgtgt cctcagcgag tgccccactg ctgagcggga  
 1020  
 tcgtagggga ctcccgcgga ggccaggcgg gagagttggg agggaagggtc ctgg  
 1074

&lt;210&gt; 5676

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5676

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Val | Thr | Val | Leu | Cys | Thr | Gly | Leu | Ser | Leu | Ser | Ile | Gly | Met | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Thr | Ser | Gln | Gly | Cys | Arg | Ala | Gly | Gly | Arg | Cys | Gly | Trp | Ala | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ala | Cys | Phe | Arg | Arg | Gln | Gln | Asn | Arg | Thr | Gln | Pro | Ala | Val | Thr | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| His | Ser | Arg | Ser | Arg | Arg | Thr | Ala | Ser | Arg | Met | Ser | Leu | Gly | Glu | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gly | Ser | Thr | Thr | Gly | Leu | Thr | Leu | Gly | His | Arg | Ala | Pro | Ala | Pro | Trp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Met | Ser | Trp | His | Asn | His | Arg | Arg | Gln | Val | Asn | Arg | Ile | Lys | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Gln | Cys | Leu | Ser | Met | Ser | Glu | Thr | Ala | Val | Ala | Arg | Ala | Trp | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Ala | Ala | Gly | Pro | Ala | Leu | Ala | Ile | Ser | Pro | Gly | Leu | Ala | Arg | Gly |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gly | Leu | Gly | Leu | Thr | Pro | Arg | Thr | Arg | Cys | Pro | Gln | Arg | Val | Pro | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5677

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5677

```

agcagctgtt cctctttgaa gaggtcgatg ctgaaaggag gcgcctgac tccatggcaa
60
aaaaggacac tggatgaagta gcggtagcac tcctccacgt tgcccaaggg ggttgctggt
120
agggaaagca agatgcagca gtgaggccct ctctggtatc cattcattca cttcactcaa
180
cagctgttta tgaccatgag caatacaagc cttgtgaaga tcctggagca gggcacaagc
240
cgctgacgtc tgctccagtg agaagccctg ctgccttccc caattcgctt tctttccgca
300
gccgccgctg ccccgacccc ggatctgcat gtggaagtac ctggacgtcc attccatgca
360
ccagctggag aagaccacca atgctgagat gagggaggtg ctggctgagc tgctggagct
420
aggggtgtcct gagcagagcc tgagcgacgc catcacctcg gacctcttct gccgcgg
477

```

&lt;210&gt; 5678

&lt;211&gt; 151

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5678

```

Met Ala Ser Leu Arg Leu Cys Ser Gly His Pro Ser Ser Ser Ser Ser
1           5           10           15
Ala Ser Thr Ser Leu Ile Ser Ala Leu Val Val Phe Ser Ser Trp Cys
20           25           30
Met Glu Trp Thr Ser Arg Tyr Phe His Met Gln Ile Arg Gly Arg Gly
35           40           45
Ser Gly Gly Cys Gly Lys Lys Ala Asn Trp Gly Arg Gln Gln Gly Phe
50           55           60
Ser Leu Glu Gln Thr Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His
65           70           75           80
Lys Ala Cys Ile Ala His Gly His Lys Gln Leu Leu Ser Glu Val Asn
85           90           95
Glu Trp Ile Pro Glu Arg Ala Ser Leu Leu His Leu Ala Phe Pro Thr
100          105          110
Ser Asn Pro Leu Gly Gln Arg Gly Gly Val Leu Pro Leu Leu His Gln
115          120          125
Cys Pro Phe Leu Pro Trp Ser Gln Ala Ala Ser Phe Gln His Arg Pro
130          135          140
Leu Gln Arg Gly Thr Ala Ala
145          150

```

&lt;210&gt; 5679

&lt;211&gt; 665

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5679

nngccctcc aggagggagc cgggagatta cgcagctcca tgtaggtcta cgtttaggtt  
 60  
 gggaggatct accatgaaga aggtcaagaa gaaaagggtca gaggccagac gccaccggac  
 120  
 tccacctccc agcatgctgg ctccaattcc acctctcagc agcctagccc tgaatccaca  
 180  
 ccacagcagc ctagtcctga atccacacca cagcagccta gccctgaatc cacaccacag  
 240  
 cattccagcc ttgaaaccac ctcccggcag ccagcattcc aagcccttcc agcacccgaa  
 300  
 atccgccgct cctcttgctg ccttttatct ccagatgcta acgtgaaggc agccctcaa  
 360  
 tccaggaaaag cagaaaatct tcaagaaaac cctccagtca tcgtaacgcy tgcctccaa  
 420  
 gccctcgga ctgtggctgt ggctctgggg gctctaggag ctgcctacta catcactgaa  
 480  
 tccttgtaga caagcccta ggcccacagt ctggcagacc tccaccagcc ccaggagttg  
 540  
 ataggtgatg gcgctgggag aagatgttca gaatatctca aaagccaagt ccagaagatc  
 600  
 cagtttccat caaagggacc tctcttgta ccaaaattta aaaaaagaaa aaaaaaacga  
 660  
 aaaaa  
 665

<210> 5680  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 5680  
 Val Gly Arg Ile Tyr His Glu Glu Gly Gln Glu Glu Lys Val Arg Gly  
 1 5 10 15  
 Gln Thr Pro Pro Asp Ser Thr Ser Gln His Ala Gly Ser Asn Ser Thr  
 20 25 30  
 Ser Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln Gln Pro Ser Pro Glu  
 35 40 45  
 Ser Thr Pro Gln Gln Pro Ser Pro Glu Ser Thr Pro Gln His Ser Ser  
 50 55 60  
 Leu Glu Thr Thr Ser Arg Gln Pro Ala Phe Gln Ala Leu Pro Ala Pro  
 65 70 75 80  
 Glu Ile Arg Arg Ser Ser Cys Cys Leu Leu Ser Pro Asp Ala Asn Val  
 85 90 95  
 Lys Ala Ala Pro Gln Ser Arg Lys Ala Glu Asn Leu Gln Glu Asn Pro  
 100 105 110  
 Pro Val Ile Val Thr Arg Val Leu Gln Ala Leu Gly Thr Val Ala Val  
 115 120 125  
 Ala Leu Gly Ala Leu Gly Ala Ala Tyr Tyr Ile Thr Glu Ser Leu  
 130 135 140

<210> 5681  
 <211> 1402  
 <212> DNA  
 <213> Homo sapiens

<400> 5681  
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60  
gtcgggacct ggtttccggg catgagctga gagcaccacg ccgaggccac gagtatttca  
120  
tagacattga tggaa gcaga aacaaaaact cttcccttg agaatgcac catcctttca  
180  
gagggtctc tgcaggaagg acaccgatta tggattggca acctggaccc caaaattacc  
240  
gaataccacc tctcaagct cctccagaag tttggcaagg taaagcagtt tgacttctc  
300  
ttccacaagt cagggtcttt ggagggacag cctcgaggct actgttttgt taactttgaa  
360  
actaagcagg aagcagagca agccatccag tgtctcaatg gcaagttggc cctgtccaag  
420  
aagctggttg tgcgatgggc acatgctcaa gtaaagagat atgatcataa caagaatgat  
480  
aagattcttc caatcagtct cgagccatcc tcaagcactg agcctactca gtctaacct  
540  
agtgtcactg caaagataaa agccattgaa gcaaaactga aaatgatggc ggaaaatcct  
600  
gatgcagagt atccagcagc gcctgtttat tctacttta agccaccaga taaaaaagg  
660  
actactccat attctagaac agcatggaaa tctcgaagat gatggttggtg aattactgta  
720  
gcagcaaaag caaattggtc tccacaccta aaatcgtctg cctgtgtact ttgtagatgt  
780  
gaatggtact attcaacgga gcacaatcac atgttagcat ttggtaacat aatgtttttg  
840  
gatgttctta tggatgtttc ttccctaaac tatgtatgga attgagcatc atccagaata  
900  
aatagcgttg tatcccaa at tgtgatttga accctgggat gctctaattg gctggttggt  
960  
ttggatttgt aactccagaa acattctata gtgtgccaga gcaaaaggca aatacacaaa  
1020  
atattattta aatcaggaaa ctaaaaatat taacatctat taaaaaattg agcatttttc  
1080  
tacgtctgtg tgtcttttac aacataaaga aaaagtaaaa ggcagggagg gaagtgagag  
1140  
acagatttta aatcatgttc agaactgttg ttccagaatt tactacggca atccctccaa  
1200  
ctggactgaa aaagagaaag ttcttggcaa aaaggagctg attctttgaa caaatgttgt  
1260  
agtaatctgt ttaagaatta tgcttattgt ttcaaaatcc caactaggaa aacatggtgt  
1320  
atatcttaaa attgtttgtg ttgacaaaac tagaatcaaa tttaacattt tataccacat  
1380  
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1402

&lt;210&gt; 5682

&lt;211&gt; 190

&lt;212&gt; PRT

<213> Homo sapiens

<400> 5682

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Met Glu Ala Glu Thr Lys Thr Leu Pro Leu Glu Asn Ala Ser Ile Leu
 1           5           10           15
Ser Glu Gly Ser Leu Gln Glu Gly His Arg Leu Trp Ile Gly Asn Leu
 20           25           30
Asp Pro Lys Ile Thr Glu Tyr His Leu Leu Lys Leu Leu Gln Lys Phe
 35           40           45
Gly Lys Val Lys Gln Phe Asp Phe Leu Phe His Lys Ser Gly Ala Leu
 50           55           60
Glu Gly Gln Pro Arg Gly Tyr Cys Phe Val Asn Phe Glu Thr Lys Gln
 65           70           75           80
Glu Ala Glu Gln Ala Ile Gln Cys Leu Asn Gly Lys Leu Ala Leu Ser
 85           90           95
Lys Lys Leu Val Val Arg Trp Ala His Ala Gln Val Lys Arg Tyr Asp
100          105          110
His Asn Lys Asn Asp Lys Ile Leu Pro Ile Ser Leu Glu Pro Ser Ser
115          120          125
Ser Thr Glu Pro Thr Gln Ser Asn Leu Ser Val Thr Ala Lys Ile Lys
130          135          140
Ala Ile Glu Ala Lys Leu Lys Met Met Ala Glu Asn Pro Asp Ala Glu
145          150          155          160
Tyr Pro Ala Ala Pro Val Tyr Ser Tyr Phe Lys Pro Pro Asp Lys Lys
165          170          175
Arg Thr Thr Pro Tyr Ser Arg Thr Ala Trp Lys Ser Arg Arg
180          185          190

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<210> 5683

<211> 328

<212> DNA

<213> Homo sapiens

<400> 5683

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120
atgctttcag aaggcaccac atgtgatgca cagcctctat ttacatgtga ataattacac
180
tgctgctttc tgggtaaaag tagggaaata cagtgttcca gggcatagga atgggtgctct
240
gggtagaaaa gtttattttg ctggtgggag gcagggtttg ttaataaagc tttgaaatac
300
acaaatttca ttctggatgc tgatgctg
328

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<210> 5684

<211> 103

<212> PRT

<213> Homo sapiens

<400> 5684

```

Met Lys Phe Val Tyr Phe Lys Ala Leu Leu Thr Lys Pro Ala Ser His

```

```

      1           5           10           15
Gln Gln Asn Lys Leu Phe Tyr Pro Glu His His Ser Tyr Ala Leu Glu
      20           25           30
His Cys Ile Ser Leu Leu Leu Thr Arg Lys Gln Gln Cys Asn Tyr Ser
      35           40           45
His Val Asn Arg Gly Cys Ala Ser His Val Val Pro Ser Glu Ser Ile
      50           55           60
Gly Trp Ile Val Cys Val Pro Trp Leu Met Leu Thr His Gln Tyr Arg
      65           70           75           80
Ser Ala Leu Arg Val Cys Arg Asp Gly Gln Cys Leu Thr Ala Glu Ala
      85           90           95
Ser Leu Gly Gln Arg Met Asp
      100

```

&lt;210&gt; 5685

&lt;211&gt; 604

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5685

```

ccatgcagcc gcgtgggtgg caagcgggtg gtgtgctatg acgacagatt cattgtgaag
60
ctggcctacg agtctgacgg gatcgtggtt tccaacgaca cataccgtga cctccaaggc
120
gagcggcagg agtggaagcg cttcatcgag gagcggctgc tcatgtactc cttcgtcaat
180
gacaagtatg ttccctccca gaggccctga cagacttggg gtccacaggg gaagccagag
240
gtgcccttgg caaggggtgga gctgggggct gggctctgcg gggccctgtg gccatgggag
300
gttgcgggtc ttggctccag gcagctttga gagtgagacg gatagctcac cacataggag
360
aatcagacc gggaccaggc aggctgtggg gtggagagag tggctaattt gggagataga
420
gccgtagcac ttatgagggg atgtatgtgg ttgatgggtc caggtggcct ctctacgaac
480
caacatggca tctctcgagc agaggccatg ggccagtggg tgcgggctgc catccccga
540
cgacttcagg gagggagttc ccctaaaggt gcccatgggc tgtggccctc tagaccgggg
600
atcc
604

```

&lt;210&gt; 5686

&lt;211&gt; 69

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5686

```

Pro Cys Ser Arg Val Gly Gly Lys Arg Val Val Cys Tyr Asp Asp Arg
1           5           10           15
Phe Ile Val Lys Leu Ala Tyr Glu Ser Asp Gly Ile Val Val Ser Asn
      20           25           30
Asp Thr Tyr Arg Asp Leu Gln Gly Glu Arg Gln Glu Trp Lys Arg Phe

```

35 40 45  
 Ile Glu Glu Arg Leu Leu Met Tyr Ser Phe Val Asn Asp Lys Tyr Val  
 50 55 60  
 Pro Ser Gln Arg Pro  
 65

<210> 5687  
 <211> 328  
 <212> DNA  
 <213> Homo sapiens

<400> 5687  
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 60  
 ccccggtctct gcatgcacgc ctgcgtgaac accccgggct cttcccgttg cacctgcccc  
 120  
 ggtggatccg aaactctggc tgacgggaag agctgtgaga atgtggatga atgtgtgggc  
 180  
 ctgcagccgg tgtgccccca ggggaccaca tgcataca cgggtggaag cttccagtgt  
 240  
 gtcagccctg agtgccccga gggcagcggc aatgtgagct acgtgaagac gtctccattc  
 300  
 cagtgtgagc ggaaccctg ccccatgg  
 328

<210> 5688  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 5688  
 Thr Leu Ser Arg Pro Arg Gly Ala Gly Lys Gly Gly Gly Asp Gly Gly  
 1 5 10 15  
 Gly Gly Glu Arg Pro Arg Leu Cys Met His Ala Cys Val Asn Thr Pro  
 20 25 30  
 Gly Ser Ser Arg Cys Thr Cys Pro Gly Gly Ser Glu Thr Leu Ala Asp  
 35 40 45  
 Gly Lys Ser Cys Glu Asn Val Asp Glu Cys Val Gly Leu Gln Pro Val  
 50 55 60  
 Cys Pro Gln Gly Thr Thr Cys Ile Asn Thr Gly Gly Ser Phe Gln Cys  
 65 70 75 80  
 Val Ser Pro Glu Cys Pro Glu Gly Ser Gly Asn Val Ser Tyr Val Lys  
 85 90 95  
 Thr Ser Pro Phe Gln Cys Glu Arg Asn Pro Cys Pro Met  
 100 105

<210> 5689  
 <211> 1897  
 <212> DNA  
 <213> Homo sapiens

<400> 5689  
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 60

tgaacaatca gaatcataga agagtgtgag cactggtcct ttgtcttcca ggtgggacag  
120  
tgtgtggtgg tcttcagcca ggctcctagt gggagagccc cactcagccc cagtttgaac  
180  
tctcgcccat cacctatcag tgccactncc tccagctctc gttcctgaaa cccgagagta  
240  
ccgctctcag tctccagtaa gaagcatgga tgaagctcct tgtgttaacg gccgctgggg  
300  
aacactgaga cccagggtc aaaggcagac tcctcagggt cccgggaagg gagcctttcc  
360  
ccagccagag gagacggctc tcctatcctc aatggtggga gtttgtctcc aggaacggca  
420  
gctgtgggtg gctcttcttt ggacagtcct gtacaggcca tatctccaag tactccatct  
480  
gctgctgaag gatacgacct gaaaatagga ctttctttgg cccccgacg aggatcaacc  
540  
agatcagaaa gatctgagat taggatccat agatctgaat tgggatctaa acccgcttcc  
600  
agtagtaatc ccatggatgg catggacaat aggacagttg ggggaagtat gagacaccct  
660  
cctgaacaga caaatggtgt gcatacccca cctcacgtgg ccagtgcctc tgcagggggc  
720  
gtctccccag gtgccctgcg tcggagtctg gaagccatca aagcgatgtc ctccaaaggc  
780  
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840  
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<210> 5690

<211> 54

<212> PRT

<213> Homo sapiens

<400> 5690

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ile | Arg | Ile | Ile | Glu | Glu | Cys | Glu | His | Trp | Ser | Phe | Val | Phe | Gln |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Val | Gly | Gln | Cys | Val | Val | Val | Phe | Ser | Gln | Ala | Pro | Ser | Gly | Arg | Ala |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Pro | Leu | Ser | Pro | Ser | Leu | Asn | Ser | Arg | Pro | Ser | Pro | Ile | Ser | Ala | Thr |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Xaa | Ser | Ser | Ser | Arg | Ser |     |     |     |     |     |     |     |     |     |     |
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<210> 5691

<211> 1227

<212> DNA

<213> Homo sapiens

<400> 5691

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&lt;210&gt; 5692

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5692

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Arg | Lys | Asn | Asn | Cys | His | Gly | Asn | His | Ile | Glu | Met | Gln | Ala | Met |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Glu | Met | Tyr | Asn | Arg | Pro | Val | Glu | Val | Tyr | Gln | Tyr | Ser | Thr | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Ile | Asn | Thr | Phe | His | Gly | Ile | His | Gln | Asn | Glu | Asp | Glu | Pro | Ile |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Arg | Val | Ser | Tyr | His | Arg | Asn | Ile | His | Tyr | Asn | Ser | Val | Val | Asn | Pro |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Lys | Ala | Thr | Ile | Gly | Val | Gly | Leu | Gly | Cys | His | His | Ser | Asn | Gln |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Gly | Leu | Gln | Ser | Ser | Leu |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     | 85  |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5693

&lt;211&gt; 389

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5693

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 120  
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&lt;210&gt; 5696

&lt;211&gt; 368

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5696

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Leu | His | Arg | Ser | Leu | Lys | Pro | Gln | Gly | Gln | Val | Gly | Glu | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Glu | Ala | Gly | Ala | Leu | Arg | Gln | Ala | Leu | Thr | Phe | Ser | Leu | Leu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Pro | Pro | Leu | Glu | Ala | Glu | Glu | Pro | Pro | Asp | Arg | Gly | Thr | Asp | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Ala | Gln | Leu | Val | Val | His | Ser | Ala | Phe | Glu | Gln | Asp | Val | Glu | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Asp | Arg | Ala | Leu | Arg | Ala | Ala | Leu | Glu | Val | His | Val | Gln | Glu | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Val | Gly | Pro | Trp | Arg | Arg | Thr | Leu | Pro | Ala | Glu | Leu | Arg | Ala | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Glu | Arg | Cys | His | Gly | Val | Ser | Val | Ala | Leu | Arg | Gly | Asp | Cys | Thr |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Ile | Leu | Arg | Gly | Phe | Gly | Ala | His | Pro | Ala | Arg | Ala | Ala | Arg | His | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ala | Leu | Leu | Ala | Gly | Pro | Trp | Asp | Gln | Ser | Leu | Ala | Phe | Pro | Leu |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Ala | Ala | Ser | Gly | Pro | Thr | Leu | Ala | Gly | Gln | Thr | Leu | Lys | Gly | Pro | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asn | Asn | Leu | Glu | Arg | Leu | Ala | Glu | Asn | Thr | Gly | Glu | Phe | Gln | Glu | Val |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |     |
| Val | Arg | Ala | Phe | Tyr | Asp | Thr | Leu | Asp | Ala | Ala | Arg | Ser | Ser | Ile | Arg |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |
| Val | Val | Arg | Val | Glu | Arg | Val | Ser | His | Pro | Leu | Leu | Gln | Gln | Gln | Tyr |
|     |     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |
| Glu | Leu | Tyr | Arg | Glu | Arg | Leu | Leu | Gln | Arg | Cys | Glu | Arg | Arg | Pro | Val |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Glu Gln Val Leu Tyr His Gly Thr Thr Ala Pro Ala Val Pro Asp Ile |     |     |
| 225   | 230 | 235 |
| Cys Ala His Gly Phe Asn Arg Ser Phe Cys Gly Arg Asn Ala Thr Val |     | 240 |
|   | 245 | 250 |
| Tyr Gly Lys Gly Val Tyr Phe Ala Arg Arg Ala Ser Leu Ser Val Gln |     | 255 |
|   | 260 | 265 |
| Asp Arg Tyr Ser Pro Pro Asn Ala Asp Gly His Lys Ala Val Phe Val |     | 270 |
|   | 275 | 280 |
| Ala Arg Val Leu Thr Gly Asp Tyr Gly Gln Gly Arg Arg Gly Leu Arg |     | 285 |
|   | 290 | 295 |
| Ala Pro Pro Leu Arg Gly Pro Gly His Val Leu Leu Arg Tyr Asp Ser |     | 300 |
| 305   | 310 | 315 |
| Ala Val Asp Cys Ile Cys Gln Pro Ser Ile Phe Val Ile Phe His Asp |     | 320 |
|   | 325 | 330 |
| Thr Gln Ala Leu Pro Thr His Leu Ile Thr Cys Glu His Val Pro Arg |     | 335 |
|   | 340 | 345 |
| Ala Ser Pro Asp Asp Pro Ser Gly Leu Pro Gly Arg Ser Pro Asp Thr |     | 350 |
|   | 355 | 360 |
|   |     | 365 |

&lt;210&gt; 5697

&lt;211&gt; 3362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5697

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 3362

&lt;210&gt; 5698

&lt;211&gt; 403

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5698

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Val | Ala | Ser | Glu | Arg | Lys | Met | Arg | Ala | His | Gln | Val | Leu | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe | Leu | Leu | Leu | Phe | Val | Ile | Thr | Ser | Val | Ala | Ser | Glu | Asn | Ala | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Ser | Arg | Gly | Cys | Gly | Leu | Asp | Leu | Leu | Pro | Gln | Tyr | Val | Ser | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Asp | Leu | Asp | Ala | Ile | Trp | Gly | Ile | Val | Val | Glu | Ala | Val | Ala | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ala | Gly | Ala | Leu | Ile | Thr | Leu | Leu | Leu | Met | Leu | Ile | Leu | Leu | Val | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Pro | Phe | Ile | Lys | Glu | Lys | Glu | Lys | Lys | Ser | Pro | Val | Gly | Leu | His |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Phe | Leu | Phe | Leu | Gly | Thr | Leu | Gly | Leu | Phe | Gly | Leu | Thr | Phe | Ala |     |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Phe | Ile | Ile | Gln | Glu | Asp | Glu | Thr | Ile | Cys | Ser | Val | Arg | Arg | Phe | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Gly | Val | Leu | Phe | Ala | Leu | Cys | Phe | Ser | Cys | Leu | Leu | Ser | Gln | Ala |

130 135 140  
 Trp Arg Val Arg Arg Leu Val Arg His Gly Thr Gly Pro Ala Gly Trp  
 145 150 155 160  
 Gln Leu Val Gly Leu Ala Leu Cys Leu Met Leu Val Gln Val Ile Ile  
 165 170 175  
 Ala Val Glu Trp Leu Val Leu Thr Val Leu Arg Asp Thr Arg Pro Ala  
 180 185 190  
 Cys Ala Tyr Glu Pro Met Asp Phe Val Met Ala Leu Ile Tyr Asp Met  
 195 200 205  
 Val Leu Leu Val Val Thr Leu Gly Leu Ala Leu Phe Thr Leu Cys Gly  
 210 215 220  
 Lys Phe Lys Arg Trp Lys Leu Asn Gly Ala Phe Leu Leu Ile Thr Ala  
 225 230 235 240  
 Phe Leu Ser Val Leu Ile Trp Val Ala Trp Met Thr Met Tyr Leu Phe  
 245 250 255  
 Gly Asn Val Lys Leu Gln Gln Gly Asp Ala Trp Asn Asp Pro Thr Leu  
 260 265 270  
 Ala Ile Thr Leu Ala Ala Ser Gly Trp Val Phe Val Ile Phe His Ala  
 275 280 285  
 Ile Pro Glu Ile His Cys Thr Leu Leu Pro Ala Leu Gln Glu Asn Thr  
 290 295 300  
 Pro Asn Tyr Phe Asp Thr Ser Gln Pro Arg Met Arg Glu Thr Ala Phe  
 305 310 315 320  
 Glu Glu Asp Val Gln Leu Pro Arg Ala Tyr Met Glu Asn Lys Ala Phe  
 325 330 335  
 Ser Met Asp Glu His Asn Ala Ala Leu Arg Thr Ala Gly Phe Pro Asn  
 340 345 350  
 Gly Ser Leu Gly Lys Arg Pro Ser Gly Ser Leu Gly Lys Arg Pro Ser  
 355 360 365  
 Ala Pro Phe Arg Ser Asn Val Tyr Gln Pro Thr Glu Met Ala Val Val  
 370 375 380  
 Leu Asn Gly Gly Thr Ile Pro Thr Ala Pro Pro Ser His Thr Gly Arg  
 385 390 395 400  
 His Leu Trp

&lt;210&gt; 5699

&lt;211&gt; 1565

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5699

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 atcaaatatt ttatttttcat taaaaaaaaa ccttgaataa taggaatcat tttacacatt  
 120  
 aatggttgct ctttaaaagt tagaatctca agagatacca aaagcactta agagttacca  
 180  
 ccacattttg cccaagttct aaggaaagtt ctgaaactta gtggtggtgt gtttgtaactc  
 240  
 agcaagctcc agacagtctg agttgctcat tccatgaaca gaagcttgaa aatgccctta  
 300  
 cagttgagat ataaacgagg gaagaggtga agctttcagg aagccagaga gccctgccc  
 360

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 420  
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 480  
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 660  
 aaagctccaa aagtcagttt caaattcttt cagtgtgctg cccagagaag tccgtgtgca  
 720  
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 780  
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 1200  
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 gtacc  
 1565

&lt;210&gt; 5700

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5700

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Ala | Ile | Val | Gln | Leu | Gly | Pro | Glu | Trp | His | Gly | Met | Leu | Tyr |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Gln | Ala | Asp | Ser | Lys | Lys | Lys | Ser | Asn | Leu | Met | Met | Ser | Leu | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Glu | Pro | Gly | Pro | Glu | Pro | Leu | Pro | Trp | Leu | Gly | Lys | Met | Ala | Gln | Leu |

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      35              40              45
Gly Pro Ile Ser Asp Ala Lys Glu Asn Pro Tyr Gly Glu Asp Asp Asn
      50              55              60
Lys Ser Pro Phe Pro Leu Gln Pro Lys Asn Lys Arg Ser Tyr Ala Gln
65      70              75              80
Asn Val Thr Val Trp Ile Lys Pro Ser Gly Leu Gln Thr Asp Val Gln
      85              90              95
Lys Ile Leu Arg Asn Ala Arg Lys Leu Pro Glu Lys Thr Gln Thr Phe
      100             105             110
Tyr Lys Glu Leu Asn Arg Leu Arg Lys Ala Ala Leu Ala Phe Gly Phe
      115             120             125
Leu Asp Leu Leu Lys Gly Val Ala Asp Met Leu Glu Arg Glu Cys Thr
      130             135             140
Leu Leu Pro Glu Thr Ala His Pro Asp Ala Ala Phe Gln Leu Thr His
145      150             155             160
Ala Ala Gln Gln Leu Lys Leu Ala Ser Thr Gly Thr Ser Glu Tyr Ala
      165             170             175
Ala Tyr Asp Gln Asn Ile Thr Pro Leu His Thr Asp Phe Ser Gly Ser
      180             185             190
Ser Thr Glu Arg Ile
      195

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&lt;210&gt; 5701

&lt;211&gt; 1885

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5701

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120
tggagcccca cactgagctg cagtgggtgg ggagggtggt ttacaggggt gctctgtgca
180
gcccctctga ttttccctg ggagtccag gtccagggga aggaggacag tggcccaggc
240
cacacagctc actgggcggc tctcactccc ccagggtggt ctgctggcgg gatggacacc
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360
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780

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 960  
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 1860  
 gcagaaaaaa aaaaaaaaaaag ttttg  
 1885

&lt;210&gt; 5702

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5702

Met Asp Thr Leu Glu Val Thr Trp Ala Asn Gly Ser Thr Ala Leu  
 1 5 10 15  
 Pro Pro Pro Leu Ala Pro Asn Ile Ser Val Pro His Arg Cys Leu Leu  
 20 25 30  
 Leu Leu Tyr Glu Asp Ile Gly Thr Ser Arg Val Arg Tyr Trp Asp Leu  
 35 40 45  
 Leu Leu Ile Pro Asn Val Leu Phe Leu Ile Phe Leu Leu Trp Lys  
 50 55 60  
 Leu Pro Ser Ala Arg Ala Lys Ile Arg Ile Thr Ser Ser Pro Ile Phe

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |    |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|----|--|--|--|
| 65  |     |     |     |     |     |     |     |     | 70  |     |     |     | 75  |     |     |  | 80 |  |  |  |
| Ile | Thr | Phe | Tyr | Ile | Leu | Val | Phe | Val | Val | Ala | Leu | Val | Gly | Ile | Ala |  |    |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |  |    |  |  |  |
| Arg | Ala | Val | Val | Ser | Met | Thr | Val | Ser | Thr | Ser | Asn | Ala | Ala | Thr | Val |  |    |  |  |  |
|     |     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |  |    |  |  |  |
| Ala | Asp | Lys | Ile | Leu | Trp | Glu | Ile | Thr | Arg | Phe | Phe | Leu | Leu | Ala | Ile |  |    |  |  |  |
|     |     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |  |    |  |  |  |
| Glu | Leu | Ser | Val | Ile | Ile | Leu | Gly | Leu | Ala | Phe | Gly | His | Leu | Glu | Ser |  |    |  |  |  |
|     |     |     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |  |    |  |  |  |
| Lys | Ser | Ser | Ile | Lys | Arg | Val | Leu | Ala | Ile | Thr | Thr | Val | Leu | Ser | Leu |  |    |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |    |  |  |  |
| Ala | Tyr | Ser | Val | Thr | Gln | Gly | Thr | Leu | Glu | Ile | Leu | Tyr | Pro | Asp | Ala |  |    |  |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |     |  |    |  |  |  |
| His | Leu | Ser | Ala | Glu | Asp | Phe | Asn | Ile | Tyr | Gly | His | Gly | Gly | Arg | Gln |  |    |  |  |  |
|     |     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |  |    |  |  |  |
| Phe | Trp | Leu | Val | Ser | Ser | Cys | Phe | Phe | Phe | Leu | Val | Tyr | Ser | Leu | Val |  |    |  |  |  |
|     |     |     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |  |    |  |  |  |
| Val | Ile | Leu | Pro | Lys | Thr | Pro | Leu | Lys | Glu | Arg | Ile | Ser | Leu | Pro | Ser |  |    |  |  |  |
|     |     |     |     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |  |    |  |  |  |
| Arg | Arg | Ser | Phe | Tyr | Val | Tyr | Ala | Gly | Ile | Leu | Ala | Leu | Leu | Asn | Leu |  |    |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |    |  |  |  |
| Leu | Gln | Gly | Leu | Gly | Ser | Val | Leu | Leu | Cys | Phe | Asp | Ile | Ile | Glu | Gly |  |    |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |  |    |  |  |  |
| Leu | Cys | Cys | Val | Asp | Ala | Thr | Thr | Phe | Leu | Tyr | Phe | Ser | Phe | Phe | Ala |  |    |  |  |  |
|     |     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |     |     |  |    |  |  |  |
| Pro | Leu | Ile | Tyr | Val | Ala | Phe | Leu | Arg | Gly | Phe | Phe | Gly | Ser | Glu | Pro |  |    |  |  |  |
|     |     |     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |     |     |  |    |  |  |  |
| Lys | Ile | Leu | Phe | Xaa | Leu | Gln | Met | Pro | Ser | Gly | Arg | Asp | Arg | Gly | Ala |  |    |  |  |  |
|     |     |     |     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |  |    |  |  |  |
| Arg | Cys | Thr | Pro | Thr | Pro | Ala | Leu | Arg | Cys | Gly | Pro | Ala | Gly | Gly | Pro |  |    |  |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |    |  |  |  |
| Gly | Gly | Cys | Arg | Gly | Cys | Trp | Gly | Leu | Ser | Cys | Gln | Leu | Leu | Glu | His |  |    |  |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |     |     |  |    |  |  |  |
| Ala | Val | Arg | Leu | Cys | Arg | Arg | Gly | Gly | Leu | Pro | Gly |     |     |     |     |  |    |  |  |  |
|     |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     |     |     |  |    |  |  |  |

<210> 5703

<211> 1496

**<212> DNA**

<213> Homo sapiens

**<400> 5703**

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120

180  
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240 cagacctact cggactacct gcgctgggag agcttcctcc agcagcagct gcaggccttg

cccaggggct cagtcctgcg ccggggcctc cagacctgcg agcactggaa gcagatatctc  
300

atggaatcg taggggtgca ggcgcctg tgcggcctgg tgctatcct gctcatctgc  
360

gtggccgcgg tggccgtggt caccacccac atcctgctcc tgctgccgt gtcctcagc  
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 840  
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 1380  
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 1496

&lt;210&gt; 5704

&lt;211&gt; 269

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5704

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Arg | Thr | Thr | Tyr | Lys | Gly | Lys | Ser | Ser | Phe | Gln | Thr | Tyr | Ser | Asp |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Tyr | Leu | Arg | Trp | Glu | Ser | Phe | Leu | Gln | Gln | Gln | Leu | Gln | Ala | Leu | Pro |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Gly | Ser | Val | Leu | Arg | Arg | Gly | Phe | Gln | Thr | Cys | Glu | His | Trp | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Gln | Ile | Phe | Met | Glu | Ile | Val | Gly | Val | Gln | Ser | Ala | Leu | Cys | Gly | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Leu | Ser | Leu | Leu | Ile | Cys | Val | Ala | Ala | Val | Ala | Val | Phe | Thr | Thr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--|--|--|
| 65  | 70  |     |     |     |     |     |     |     |     |     | 75  |     |     |     |     | 80 |     |  |  |  |
| His | Ile | Leu | Leu | Leu | Leu | Pro | Val | Leu | Leu | Ser | Ile | Leu | Gly | Ile | Val |    |     |  |  |  |
|     |     |     |     | 85  |     |     |     |     |     |     | 90  |     |     |     |     |    | 95  |  |  |  |
| Cys | Leu | Val | Val | Thr | Ile | Met | Tyr | Trp | Ser | Gly | Trp | Glu | Met | Gly | Ala |    |     |  |  |  |
|     |     |     |     | 100 |     |     |     |     |     |     | 105 |     |     |     |     |    | 110 |  |  |  |
| Val | Glu | Ala | Ile | Ser | Leu | Ser | Ile | Leu | Val | Gly | Ser | Ser | Val | Asp | Tyr |    |     |  |  |  |
|     |     |     |     | 115 |     |     |     |     |     |     | 120 |     |     |     |     |    | 125 |  |  |  |
| Cys | Val | His | Leu | Val | Glu | Gly | Tyr | Leu | Leu | Ala | Gly | Glu | Asn | Leu | Pro |    |     |  |  |  |
|     |     |     |     | 130 |     |     |     |     |     |     | 135 |     |     |     |     |    | 140 |  |  |  |
| Pro | His | Gln | Ala | Glu | Asp | Ala | Arg | Thr | Gln | Arg | Gln | Trp | Arg | Thr | Leu |    |     |  |  |  |
|     |     |     |     | 145 |     |     |     |     |     |     | 150 |     |     |     |     |    | 155 |  |  |  |
| Glu | Ala | Val | Arg | His | Val | Gly | Val | Ala | Ile | Val | Ser | Ser | Ala | Leu | Thr |    |     |  |  |  |
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| His | Phe | Pro | Glu | Val | Met | Leu | Gly | Glu | Glu | Phe | Leu | Ser | Leu | Ser | Leu |
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| Lys | Tyr | His | Leu | Leu | Pro | Leu | Asp | Gln | Arg | Leu | Leu | Ile | Lys | Asn | Pro |
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| Arg | Thr | Lys | Pro | Arg | Thr | Pro | Val | Ser | Leu | Pro | Lys | Val | Met | Ile | Val |
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| Cys | Arg | Ala | Gly | Val | Val | Phe | Met | Ala | Gly | His | Val | Tyr | Ala | Val | Gly |
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| Gly | Phe | Asn | Gly | Ser | Leu | Arg | Val | Arg | Thr | Val | Asp | Val | Tyr | Asp | Gly |
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| Val | Lys | Asp | Gln | Trp | Thr | Ser | Ile | Ala | Ser | Met | Gln | Glu | Arg | Arg | Ser |
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| Thr | Asn | Glu | Trp | Phe | Phe | Val | Ala | Pro | Met | Asn | Thr | Arg | Arg | Ser | Ser |
|     |     | 340 |     |     |     |     |     |     | 345 |     |     |     |     | 350 |     |
| Val | Gly | Val | Gly | Val | Val | Glu | Gly | Lys | Leu | Tyr | Ala | Val | Gly | Gly | Tyr |
|     |     | 355 |     |     |     |     |     |     | 360 |     |     |     |     | 365 |     |
| Asp | Gly | Ala | Ser | Arg | Gln | Cys | Leu | Ser | Thr | Val | Glu | Gln | Tyr | Asn | Pro |
|     |     | 370 |     |     |     |     |     |     | 375 |     |     |     |     | 380 |     |
| Ala | Thr | Asn | Glu | Trp | Ile | Tyr | Val | Ala | Asp | Met | Ser | Thr | Arg | Arg | Ser |
|     |     | 385 |     |     |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Gly | Ala | Gly | Val | Gly | Val | Leu | Ser | Gly | Gln | Leu | Tyr | Ala | Thr | Gly | Gly |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| His | Asp | Gly | Pro | Leu | Val | Arg | Lys | Ser | Val | Glu | Val | Tyr | Asp | Pro | Gly |
|     |     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |
| Thr | Asn | Thr | Trp | Lys | Gln | Val | Ala | Asp | Met | Asn | Met | Cys | Arg | Arg | Asn |
|     |     | 435 |     |     |     |     |     |     | 440 |     |     |     |     | 445 |     |
| Ala | Gly | Val | Cys | Ala | Val | Asn | Gly | Leu | Leu | Tyr | Val | Val | Gly | Gly | Asp |
|     |     | 450 |     |     |     |     |     |     | 455 |     |     |     |     | 460 |     |
| Asp | Gly | Ser | Cys | Asn | Leu | Ala | Ser | Val | Glu | Tyr | Tyr | Asn | Pro | Val | Thr |
|     |     | 465 |     |     |     |     |     |     | 470 |     |     |     |     | 475 |     |
| Asp | Lys | Trp | Thr | Leu | Leu | Pro | Thr | Asn | Met | Ser | Thr | Gly | Arg | Ser | Tyr |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Ala | Gly | Val | Ala | Val | Ile | His | Lys | Ser | Leu |     |     |     |     |     |     |
|     |     | 500 |     |     |     |     |     |     | 505 |     |     |     |     |     |     |

&lt;210&gt; 5709

&lt;211&gt; 1805

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5709

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 1805

&lt;210&gt; 5710

&lt;211&gt; 441

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5710

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Leu | Thr | Pro | Leu | Val | Asp | Met | Glu | Glu | Leu | Glu | Met | Ser | Gly | Asn |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| His | Phe | Pro | Glu | Ile | Arg | Pro | Gly | Ser | Phe | His | Gly | Leu | Ser | Ser | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Lys | Lys | Leu | Trp | Val | Met | Asn | Ser | Gln | Val | Ser | Leu | Ile | Glu | Arg | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ala | Phe | Asp | Gly | Leu | Ala | Ser | Leu | Val | Glu | Leu | Asn | Leu | Ala | His | Asn |

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      50              55              60
Asn Leu Ser Ser Leu Pro His Asp Leu Phe Thr Pro Leu Arg Tyr Leu
65              70              75              80
Val Glu Leu His Leu His His Asn Pro Trp Asn Cys Asp Cys Asp Ile
      85              90              95
Leu Trp Leu Ala Trp Trp Leu Arg Glu Tyr Ile Pro Thr Asn Ser Thr
      100              105              110
Cys Cys Gly Arg Cys His Ala Pro Met His Met Arg Gly Arg Tyr Leu
      115              120              125
Val Glu Val Asp Gln Ala Ser Phe Gln Cys Ser Ala Pro Phe Ile Met
      130              135              140
Asp Ala Pro Arg Asp Leu Asn Ile Ser Glu Gly Arg Met Ala Glu Leu
      145              150              155              160
Lys Cys Arg Thr Pro Pro Met Ser Ser Val Lys Trp Leu Leu Pro Asn
      165              170              175
Gly Thr Val Leu Ser His Ala Ser Arg His Pro Arg Ile Ser Val Leu
      180              185              190
Asn Asp Gly Thr Leu Asn Phe Ser His Val Leu Leu Ser Asp Thr Gly
      195              200              205
Val Tyr Thr Cys Met Val Thr Asn Val Ala Gly Asn Ser Asn Ala Ser
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Ala Tyr Leu Asn Val Ser Thr Ala Glu Leu Asn Thr Ser Asn Tyr Ser
      225              230              235              240
Phe Phe Thr Thr Val Thr Val Glu Thr Thr Glu Ile Ser Pro Glu Asp
      245              250              255
Thr Thr Arg Lys Tyr Lys Pro Val Pro Thr Thr Ser Thr Gly Tyr Gln
      260              265              270
Pro Ala Tyr Thr Thr Ser Thr Thr Val Leu Ile Gln Thr Thr Arg Val
      275              280              285
Pro Lys Gln Val Ala Val Pro Ala Thr Asp Thr Thr Asp Lys Met Gln
      290              295              300
Thr Ser Leu Asp Glu Val Met Lys Thr Thr Lys Ile Ile Ile Gly Cys
      305              310              315              320
Phe Val Ala Val Thr Leu Leu Ala Ala Ala Met Leu Ile Val Phe Tyr
      325              330              335
Lys Leu Arg Lys Arg His Gln Gln Arg Ser Thr Val Thr Ala Ala Arg
      340              345              350
Thr Val Glu Ile Ile Gln Val Asp Glu Asp Ile Pro Ala Ala Thr Ser
      355              360              365
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      370              375              380
Val Leu Pro Thr Ile His Asp His Ile Asn Tyr Asn Thr Tyr Lys Pro
      385              390              395              400
Ala His Gly Ala His Trp Thr Glu Asn Ser Leu Gly Asn Ser Leu His
      405              410              415
Pro Thr Val Thr Thr Ile Ser Glu Pro Tyr Ile Ile Gln Thr His Thr
      420              425              430
Lys Asp Lys Val Gln Glu Thr Gln Ile
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 <211> 1142  
 <212> DNA  
 <213> Homo sapiens

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 180  
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 360  
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<210> 5712

<211> 145

<212> PRT

<213> Homo sapiens

<400> 5712

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Gln | Lys | Tyr | Ala | Gly | Ser | Arg | Arg | Ser | Met | Pro | Leu | Gly | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Ile | Leu | Phe | His | Gly | Val | Phe | Tyr | Ala | Gly | Gly | Phe | Ala | Ile | Val |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Tyr | Tyr | Leu | Ile | Gln | Lys | Phe | His | Ser | Arg | Ala | Leu | Tyr | Tyr | Lys | Leu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |

Ala Val Glu Gln Leu Gln Ser His Pro Glu Ala Gln Glu Ala Leu Gly  
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 Pro Pro Leu Asn Ile His Tyr Leu Lys Leu Ile Asp Arg Glu Asn Phe  
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 Val Asp Ile Val Asp Ala Lys Leu Lys Ile Pro Val Ser Gly Ser Lys  
 85 90 95  
 Ser Glu Gly Leu Leu Tyr Val His Ser Ser Arg Gly Gly Pro Phe Gln  
 100 105 110  
 Arg Trp His Leu Asp Glu Val Phe Leu Glu Leu Lys Asp Gly Gln Gln  
 115 120 125  
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 Glu  
 145

&lt;210&gt; 5713

&lt;211&gt; 1996

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5713

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 aaaaacaaca acaagtcttc aagccagcag tcatcatctt cctcctcctc ttcttcctta  
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 1996

&lt;210&gt; 5714

&lt;211&gt; 408

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5714

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Glu | Gln | Leu | Pro | Met | Asp | Leu | Arg | Asp | Arg | Phe | Thr | Glu | Met | Arg |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Met | Asp | Leu | Gln | Val | Gln | Asn | Ala | Met | Asp | Gln | Leu | Glu | Gln | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Val | Ser | Glu | Phe | Phe | Met | Asn | Ala | Lys | Lys | Asn | Lys | Pro | Glu | Trp | Arg |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Glu | Gln | Met | Ala | Ser | Ile | Lys | Lys | Asp | Tyr | Tyr | Lys | Ala | Leu | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asp | Ala | Asp | Glu | Lys | Val | Gln | Leu | Ala | Asn | Gln | Ile | Tyr | Asp | Leu | Val |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Arg | His | Leu | Arg | Lys | Leu | Asp | Gln | Glu | Leu | Ala | Lys | Phe | Lys | Met |

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180
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&lt;210&gt; 5716

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5716

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| Glu Cys Leu His Thr Phe Cys Lys Ser Cys Ile Val Lys Tyr Leu Gln |     |    |     |    |     |
| 35  |     | 40 |     | 45 |     |
| Thr Ser Lys Tyr Cys Pro Met Cys Asn Ile Lys Ile His Glu Thr Gln |     |    |     |    |     |
| 50  |     | 55 |     | 60 |     |
| Pro Leu Leu Asn Leu Lys Leu Asp Arg Val Met Gln Asp Ile Val Tyr |     |    |     |    |     |
| 65  |     | 70 |     | 75 | 80  |
| Lys Leu Val Pro Gly Leu Gln Asp Ser Glu Glu Lys Arg Ile Arg Glu |     |    |     |    |     |
|   | 85  |    | 90  |    | 95  |
| Phe Tyr Gln Ser Arg Gly Leu Asp Arg Val Thr Gln Pro Thr Gly Glu |     |    |     |    |     |
|   | 100 |    | 105 |    | 110 |
| Glu Pro Ala Leu Ser Asn Leu Gly Leu Pro Phe Ser Ser Phe Asp His |     |    |     |    |     |
|   | 115 |    | 120 |    | 125 |
| Ser Lys Ala His Tyr Tyr Arg Tyr Asp Glu Gln Leu Asn Leu Cys Leu |     |    |     |    |     |
|   | 130 |    | 135 |    | 140 |
| Glu Arg Leu Arg   |     |    |     |    |     |
| 145   |     |    |     |    |     |

&lt;210&gt; 5717

&lt;211&gt; 1419

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5717

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&lt;210&gt; 5718

&lt;211&gt; 228

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5718

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Met | Ala | Val | Glu | Thr | Phe | Gly | Phe | Phe | Met | Ala | Thr | Val | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Leu | Met | Leu | Gly | Val | Thr | Leu | Pro | Asn | Ser | Tyr | Trp | Arg | Val | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Val | His | Gly | Asn | Val | Ile | Thr | Thr | Asn | Thr | Ile | Phe | Glu | Asn | Leu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Trp | Phe | Ser | Cys | Ala | Thr | Asp | Ser | Leu | Gly | Val | Tyr | Asn | Cys | Trp | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Pro | Ser | Met | Leu | Ala | Leu | Ser | Gly | Tyr | Ile | Gln | Ala | Cys | Arg | Ala |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Met | Ile | Thr | Ala | Ile | Leu | Leu | Gly | Phe | Leu | Gly | Leu | Leu | Leu | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ile | Ala | Gly | Leu | Arg | Cys | Thr | Asn | Ile | Gly | Gly | Leu | Glu | Leu | Ser | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Lys | Ala | Lys | Leu | Ala | Ala | Thr | Ala | Gly | Ala | Leu | His | Ile | Leu | Ala | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Cys | Gly | Met | Val | Ala | Ile | Ser | Trp | Tyr | Ala | Phe | Asn | Ile | Thr | Arg |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Phe | Phe | Asp | Pro | Leu | Tyr | Pro | Gly | Thr | Lys | Tyr | Glu | Leu | Gly | Pro |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Leu | Tyr | Leu | Gly | Trp | Ser | Ala | Ser | Leu | Ile | Ser | Ile | Leu | Gly | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Leu | Cys | Leu | Cys | Ser | Ala | Cys | Cys | Cys | Gly | Ser | Asp | Glu | Asp | Pro | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Ser | Ala | Arg | Arg | Pro | Tyr | Gln | Ala | Pro | Val | Ser | Val | Met | Pro | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Ala | Thr | Ser | Asp | Gln | Glu | Gly | Asp | Ser | Ser | Phe | Gly | Lys | Tyr | Gly | Arg |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Asn | Ala | Tyr | Val |     |     |     |     |     |     |     |     |     |     |     |     |

225

&lt;210&gt; 5719

&lt;211&gt; 2267

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5719

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120  
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180  
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240  
ctctttcgtt aatcccccca gagggaagat ggttctcctc agggcatcct gggaaacctg  
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480  
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1020  
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<210> 5720

<211> 455

<212> PRT

<213> Homo sapiens

<400> 5720

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Val | Leu | His | Lys | His | Pro | Cys | His | Leu | Val | Thr | Ser | Pro | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Gln | Gln | Arg | Gly | His | Gly | Ala | Val | His | Ala | Ala | Gly | Gln | Gly | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Asp | Val | Pro | Gln | Gly | Leu | His | Pro | Pro | Val | Ala | Pro | Ser | Gly | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Asp | Ser | Ala | Val | Ala | Ala | Leu | Leu | Leu | Arg | Arg | Arg | Gly | Tyr | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Thr | Gly | Val | Phe | Met | Lys | Asn | Trp | Asp | Ser | Leu | Asp | Glu | His | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Cys | Thr | Ala | Asp | Lys | Asp | Cys | Glu | Asp | Ala | Tyr | Arg | Val | Cys | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Leu | Asp | Ile | Pro | Phe | His | Gln | Val | Ser | Tyr | Val | Lys | Glu | Tyr | Trp |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Asp | Val | Phe | Ser | Asp | Phe | Leu | Asn | Glu | Tyr | Glu | Lys | Gly | Arg | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Asn | Pro | Asp | Ile | Val | Cys | Asn | Lys | His | Ile | Lys | Phe | Ser | Cys | Phe |

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Phe His Tyr Ala Val Asp Asn Leu Gly Ala Asp Ala Ile Ala Thr Gly |     |     |
| 145   | 150 | 155 |
| His Tyr Ala Arg Thr Ser Leu Glu Asp Glu Glu Val Phe Glu Gln Lys |     | 160 |
|   | 165 | 170 |
| His Val Lys Lys Pro Glu Gly Leu Phe Arg Asn Arg Phe Glu Val Arg |     | 175 |
|   | 180 | 185 |
| Asn Ala Val Lys Leu Leu Gln Ala Ala Asp Ser Phe Lys Asp Gln Thr |     | 190 |
|   | 195 | 200 |
| Phe Phe Leu Ser Gln Val Ser Gln Asp Ala Leu Arg Arg Thr Ile Phe |     | 205 |
|   | 210 | 215 |
| Pro Leu Gly Gly Leu Thr Lys Glu Phe Val Lys Lys Ile Ala Ala Glu |     | 220 |
| 225   | 230 | 235 |
| Asn Arg Leu His His Val Leu Gln Lys Lys Glu Ser Met Gly Met Cys |     | 240 |
|   | 245 | 250 |
| Phe Ile Gly Lys Arg Asn Phe Glu His Phe Leu Leu Gln Tyr Leu Gln |     | 255 |
|   | 260 | 265 |
| Pro Arg Pro Gly His Phe Ile Ser Ile Glu Asp Asn Lys Val Leu Gly |     | 270 |
|   | 275 | 280 |
| Thr His Lys Gly Trp Phe Leu Tyr Thr Leu Gly Gln Arg Ala Asn Ile |     | 285 |
|   | 290 | 295 |
| Gly Gly Leu Arg Glu Pro Trp Tyr Val Val Glu Lys Asp Ser Val Lys |     | 300 |
| 305   | 310 | 315 |
| Gly Asp Val Phe Val Ala Pro Arg Thr Asp His Pro Ala Leu Tyr Arg |     | 320 |
|   | 325 | 330 |
| Asp Leu Leu Arg Thr Ser Arg Val His Trp Ile Ala Glu Glu Pro Pro |     | 335 |
|   | 340 | 345 |
| Ala Ala Leu Val Arg Asp Lys Met Met Glu Cys His Phe Arg Phe Arg |     | 350 |
|   | 355 | 360 |
| His Gln Met Ala Leu Val Pro Cys Val Leu Thr Leu Asn Gln Asp Gly |     | 365 |
|   | 370 | 375 |
| Thr Val Trp Val Thr Ala Val Gln Ala Val Arg Ala Leu Ala Thr Gly |     | 380 |
| 385   | 390 | 395 |
| Gln Phe Ala Val Phe Tyr Lys Gly Asp Glu Cys Leu Gly Ser Gly Lys |     | 400 |
|   | 405 | 410 |
| Ile Leu Arg Leu Gly Pro Ser Ala Tyr Thr Leu Gln Lys Gly Gln Arg |     | 415 |
|   | 420 | 425 |
| Arg Ala Gly Met Ala Thr Glu Ser Pro Ser Asp Ser Pro Glu Asp Gly |     | 430 |
|   | 435 | 440 |
| Pro Gly Leu Ser Pro Leu Leu                                     |     | 445 |
| 450   | 455 |     |

&lt;210&gt; 5721

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5721

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cttatgtag ctatgggata tcatgagaag ggcagagctt tcctgaaaag aaaagaatat  
120

ggaatagcct tgccatgtct gttggacgct gacaaatatt tctgggtgggc gcttttgtac  
180

ttggtgaaca ccagctttaa ggaagatggc ccagactata cagaacacct gccatgccct  
 240  
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 300  
 ctggtgaatt tcttcttccc tttgtatttc taattgacct ttcctccctg taaagaaaag  
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<210> 5722  
 <211> 80  
 <212> PRT  
 <213> Homo sapiens

<400> 5722  
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 20 25 30  
 Ala Phe Leu Lys Arg Lys Glu Tyr Gly Ile Ala Leu Pro Cys Leu Leu  
 35 40 45  
 Asp Ala Asp Lys Tyr Phe Trp Trp Ala Leu Leu Tyr Leu Val Asn Thr  
 50 55 60  
 Ser Phe Lys Glu Asp Gly Pro Asp Tyr Thr Glu His Leu Pro Cys Pro  
 65 70 75 80

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 <211> 376  
 <212> DNA  
 <213> Homo sapiens

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 240  
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<210> 5724  
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 <212> PRT  
 <213> Homo sapiens

<400> 5724  
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|   |     |     |    |
|---|-----|-----|----|
| 1   | 5   | 10  | 15 |
| Leu Lys Ala Arg Lys Asn Val Glu Ser Phe Leu Glu Ala Cys Arg Lys |     |     |    |
| 20  | 25  | 30  |    |
| Met Gly Val Pro Glu Val Trp Gly Leu Leu Ser Lys Glu Trp Trp His |     |     |    |
| 35  | 40  | 45  |    |
| Ala Gly Leu Ser Gly Ala Met Trp His Gly Trp Trp Ala Ser Ile Cys |     |     |    |
| 50  | 55  | 60  |    |
| Ser Gly Cys Leu Leu Ser Asp Glu Gly Thr Gly Cys Pro Cys Leu Pro |     |     |    |
| 65  | 70  | 75  | 80 |
| Gln His Ala Pro Cys Pro Ala Cys Pro Leu Pro Cys Met Ser Pro Val |     |     |    |
| 85  | 90  | 95  |    |
| Leu His Ile Pro Cys Pro Ala Gly Pro Ile Leu Ser Cys Met Ser Pro |     |     |    |
| 100   | 105 | 110 |    |
| Val Leu His Met Pro Cys Pro Ala Leu Leu Leu His Ala             |     |     |    |
| 115   | 120 | 125 |    |

&lt;210&gt; 5725

&lt;211&gt; 1160

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5725

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 120  
 accgcgcacg ggcgagcatg gggggcaagc agagcacggc gaccgctcc cgggggcccc  
 180  
 ttcccggggg tctccaccga tgacagcgcc gtgcccgcgc cgggaggggc gccccatttc  
 240  
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 300  
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 420  
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 480  
 atgctgtacc tgggtctccg agcctcgtg gcggatgctc tacctctgca catcgacccc  
 540  
 aggtggttca gctcgcatag tggtttcaag tgccccattt gctccaagtc tgtggtttct  
 600  
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 660  
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 720  
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 780  
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 840  
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 900  
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 960

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 1160

<210> 5726

<211> 273

<212> PRT

<213> Homo sapiens

<400> 5726

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Phe | Pro | Phe | Leu | Pro | Pro | Arg | Leu | Leu | Phe | Asp | Ser | Leu | Pro |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Tyr | Ala | Arg | Pro | Ala | Leu | Pro | Leu | Leu | Leu | Arg | Ser | Gly | Gly | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Arg | Pro | Pro | Gly | Ser | Arg | Pro | Thr | Ala | His | Gly | Arg | Ala | Trp | Gly |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Ser | Arg | Ala | Arg | Arg | Pro | Ala | Pro | Gly | Gly | Pro | Phe | Pro | Gly | Val |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Thr | Asp | Asp | Ser | Ala | Val | Pro | Pro | Pro | Gly | Gly | Ala | Pro | His | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | His | Tyr | Arg | Thr | Gly | Gly | Gly | Ala | Met | Gly | Leu | Arg | Ser | Ala | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Val | Ser | Ser | Val | Ala | Gly | Met | Gly | Met | Asp | Pro | Ser | Thr | Ala | Gly | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Pro | Phe | Gly | Leu | Tyr | Thr | Pro | Ala | Ser | Arg | Gly | Thr | Gly | Asp | Ser |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Glu | Arg | Ala | Pro | Gly | Gly | Gly | Gly | Ser | Ala | Ser | Asp | Ser | Thr | Tyr | Ala |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Gly | Asn | Gly | Tyr | Gln | Glu | Thr | Gly | Gly | Gly | His | His | Arg | Asp | Gly |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Met | Leu | Tyr | Leu | Gly | Ser | Arg | Ala | Ser | Leu | Ala | Asp | Ala | Leu | Pro | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| His | Ile | Ala | Pro | Arg | Trp | Phe | Ser | Ser | His | Ser | Gly | Phe | Lys | Cys | Pro |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Ile | Cys | Ser | Lys | Ser | Val | Ala | Ser | Asp | Glu | Met | Glu | Met | His | Phe | Ile |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Met | Cys | Leu | Ser | Lys | Pro | Arg | Leu | Ser | Tyr | Asn | Asp | Asp | Val | Leu | Thr |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Asp | Ala | Gly | Glu | Cys | Val | Ile | Cys | Leu | Glu | Glu | Leu | Leu | Gln | Gly |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Asp | Thr | Ile | Ala | Arg | Leu | Pro | Cys | Leu | Cys | Ile | Tyr | His | Lys | Ser | Cys |
|     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |     |
| Ile | Asp | Ser | Trp | Phe | Glu | Val | Asn | Arg | Ser | Cys | Pro | Glu | His | Pro | Ala |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     | 270 |     |     |     |

Asp

<210> 5727

<211> 1237

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5727

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60  
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120  
gagatcctaa ggaccttgag ccccgaggag ctagagcagc tggactgcga actacaggag  
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480  
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540  
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600  
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1237

&lt;210&gt; 5728

&lt;211&gt; 368

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5728

Xaa Arg Arg Glu Val Thr Thr Arg Thr Gly Ser Val Ser Thr Thr Gln

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1           5           10           15
Trp Glu Gly Val Gly Ala Thr Met Ser Ser Tyr Gln Lys Glu Leu Glu
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Lys Tyr Arg Asp Ile Asp Glu Asp Glu Ile Leu Arg Thr Leu Ser Pro
35           40           45
Glu Glu Leu Glu Gln Leu Asp Cys Glu Leu Gln Glu Met Asp Pro Glu
50           55           60
Asn Met Leu Leu Pro Ala Gly Leu Arg Gln Arg Asp Gln Thr Lys Lys
65           70           75           80
Ser Pro Thr Gly Pro Leu Asp Arg Glu Ala Leu Leu Gln Tyr Leu Glu
85           90           95
Gln Gln Ala Leu Glu Val Lys Glu Arg Asp Asp Leu Val Pro Phe Thr
100          105          110
Gly Glu Lys Lys Gly Lys Pro Tyr Ile Gln Pro Lys Arg Glu Ile Pro
115          120          125
Ala Glu Glu Gln Ile Thr Leu Glu Pro Glu Leu Glu Glu Ala Leu Ala
130          135          140
His Ala Thr Asp Ala Glu Met Cys Asp Ile Ala Ala Ile Leu Asp Met
145          150          155          160
Tyr Thr Leu Met Ser Asn Lys Gln Tyr Tyr Asp Ala Leu Cys Ser Gly
165          170          175
Glu Ile Cys Asn Thr Glu Gly Ile Ser Ser Val Val Gln Pro Asp Lys
180          185          190
Tyr Lys Pro Val Pro Asp Glu Pro Pro Asn Pro Thr Asn Ile Glu Glu
195          200          205
Ile Leu Lys Arg Val Arg Ser Asn Asp Lys Glu Leu Glu Glu Val Asn
210          215          220
Leu Asn Asn Ile Gln Asp Ile Pro Ile Pro Met Leu Ser Glu Leu Cys
225          230          235          240
Glu Ala Met Lys Ala Asn Thr Tyr Val Arg Ser Phe Ser Leu Val Ala
245          250          255
Thr Arg Ser Gly Asp Pro Ile Ala Asn Ala Val Ala Asp Met Leu Arg
260          265          270
Glu Asn Arg Ser Leu Gln Ser Leu Asn Ile Glu Ser Asn Phe Ile Ser
275          280          285
Ser Thr Gly Leu Met Ala Val Leu Lys Ala Val Arg Glu Asn Ala Thr
290          295          300
Leu Thr Glu Leu Arg Val Asp Asn Gln Arg Gln Trp Pro Gly Asp Ala
305          310          315          320
Val Glu Met Glu Met Ala Thr Val Leu Glu Gln Cys Pro Ser Ile Val
325          330          335
Arg Phe Gly Tyr His Phe Thr Gln Gln Gly Pro Arg Ala Arg Ala Ala
340          345          350
Gln Ala Met Thr Arg Asn Asn Glu Leu Arg Arg Gln Gln Lys Lys Arg
355          360          365

```

&lt;210&gt; 5729

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5729

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<210> 5730

<211> 64

<212> PRT

<213> Homo sapiens

<400> 5730

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Ala | Lys | Lys | Arg | Val | Leu | Ser | Thr | Leu | Pro | Ser | Gln | Gly | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Gly | Gly | His | Ser | Pro | Ala | Cys | Val | Ser | Gly | Val | Pro | Pro | Gly | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Ser | Ala | Gly | Thr | Ala | Ser | Ser | Ser | Pro | Ala | Ser | Gly | Thr | Cys | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Gly | Ser | Ser | Ser | Ala | Gly | Gly | Ser | Ser | Ala | Arg | Phe | Cys | Thr | Lys | Phe |
| 50  |     |     |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |

<210> 5731

<211> 891

<212> DNA

<213> Homo sapiens

<400> 5731

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 120  
 attttgtcag cacttgggaa cttcctggcc agatgattg agaagaagcg gaaaaaagaa  
 180  
 aactctagaa gtctggatgt cgggtggcct ctgagatatg ccgtttacgg gttcttcttc  
 240  
 acagggccgc tgagtcactt cttctacttc ttcattgaac attggatccc tcctgaggtc  
 300  
 cccctggcag ggctcaggag gcttctcttg gaccgcctcg tctttgcacc ggccttcttc  
 360  
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 420  
 aagatgaggg ggggcttctg gccggcgctg aggatgaact ggcgggtgtg gacgccacta  
 480  
 cagttcatca acatcaacta cgtccctctg aagttccggg tgctcttcgc caacctggca  
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 600

caggtgcact gtggacgtgg gtctgggggt ctcacccgcc cagcgagagc agaaccaatc  
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 720  
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 780  
 ggtgggtgctg cccagaaac ttaaaattta gtcgaggcag tttcaattgt tactgtggac  
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 891

<210> 5732

<211> 193

<212> PRT

<213> Homo sapiens

<400> 5732

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Ala | Ser | Arg | Leu | Arg | Ala | Glu | Ala | Gly | Leu | Gly | Ala | Leu | Pro |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Arg | Ala | Leu | Ala | Gln | Tyr | Leu | Leu | Phe | Leu | Arg | Leu | Tyr | Pro | Val |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Thr | Lys | Ala | Ala | Thr | Ser | Gly | Ile | Leu | Ser | Ala | Leu | Gly | Asn | Phe |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Ala | Gln | Met | Ile | Glu | Lys | Lys | Arg | Lys | Lys | Glu | Asn | Ser | Arg | Ser |
|     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |     |
| Leu | Asp | Val | Gly | Gly | Pro | Leu | Arg | Tyr | Ala | Val | Tyr | Gly | Phe | Phe | Phe |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Thr | Gly | Pro | Leu | Ser | His | Phe | Phe | Tyr | Phe | Phe | Met | Glu | His | Trp | Ile |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Pro | Glu | Val | Pro | Leu | Ala | Gly | Leu | Arg | Arg | Leu | Leu | Leu | Asp | Arg |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Leu | Val | Phe | Ala | Pro | Ala | Phe | Leu | Met | Leu | Phe | Phe | Leu | Ile | Met | Asn |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Phe | Leu | Glu | Gly | Lys | Asp | Ala | Ser | Ala | Phe | Ala | Ala | Lys | Met | Arg | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Phe | Trp | Pro | Ala | Leu | Arg | Met | Asn | Trp | Arg | Val | Trp | Thr | Pro | Leu |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |
| Gln | Phe | Ile | Asn | Ile | Asn | Tyr | Val | Pro | Leu | Lys | Phe | Arg | Val | Leu | Phe |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Asn | Leu | Ala | Ala | Leu | Phe | Trp | Tyr | Ala | Tyr | Leu | Ala | Ser | Leu | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |

Lys

<210> 5733

<211> 950

<212> DNA

<213> Homo sapiens

<400> 5733

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 120

gtcagctata ctttctcttt ctggctgccc ctgtacatca cgaatgtgga tcaccttgat  
 180  
 gccaaaaagg cggggtgcac aggtagcccc gacctctca ggcattccag ccacagaaca  
 240  
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 300  
 aaaacaggac accagagccc accagacagt gccggccagc agagaagcag agagccagcg  
 360  
 ccacacaaca tcaagaaggc cgacaaccag gttggaaacc aagacggagc tcagaccac  
 420  
 cacatcgccc cagaggcttt tccagcagcc atgatgttcc ggactgacct aaaaactaat  
 480  
 tgtcgagaag ccaaggggtga ggaggcagga agcacctccg gttggaggca cccaggcttg  
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 720  
 cacacaccac acctgggact gtttttaata catagcaaca gactgggtta tttatttaag  
 780  
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 950

&lt;210&gt; 5734

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5734

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | His | Val | Val | Ile | Leu | Pro | Gly | Asp | Gly | Gly | Ser | Gly | Thr | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Ser | Phe | Thr | Gly | Ala | Leu | Lys | Ile | Pro | Gly | Val | Ile | Glu | Phe | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Cys | Leu | Leu | Phe | Ala | Lys | Leu | Val | Ser | Tyr | Thr | Phe | Leu | Phe | Trp |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Pro | Leu | Tyr | Ile | Thr | Asn | Val | Asp | His | Leu | Asp | Ala | Lys | Lys | Ala |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gly | Cys | Thr | Gly | Ser | Pro | Asp | Pro | Leu | Arg | His | Ser | Ser | His | Arg | Thr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5735

&lt;211&gt; 4241

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5735

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3060  
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3240

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 ttcccttccc tggtagtat ttccattatt ccgttaagg ttaatatgca ttcagattac  
 3960  
 ttttactaaa taggacacca taaagctttt gttatatatt aaatgtaaac tgaaaggaat  
 4020  
 gtaaacaat gttattgtaa ttataaatat agataagtaa tgacataata gatgaaaaag  
 4080  
 tcttattcag atgtatcaca ttcattttac attaccacc tattgtcgca tggtagaata  
 4140  
 gttttttgtc tctgaatatg tgaataactt gacttgcatt gatcttttta catatttaat  
 4200  
 aaaaaaaaaa gtatatgtta aaaaaaaaaa aaaaaaaaaa a  
 4241

&lt;210&gt; 5736

&lt;211&gt; 327

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5736

Met Pro Gly Pro Thr Gln Thr Leu Ser Pro Asn Gly Glu Asn Asn Asn  
 1 5 10 15  
 Asp Ile Ile Gln Asp Asn Asn Gly Thr Ile Ile Pro Phe Arg Lys His  
 20 25 30  
 Thr Val Arg Gly Glu Arg Ser Tyr Ser Trp Gly Met Ala Val Asn Val  
 35 40 45  
 Tyr Ser Thr Ser Ile Thr Gln Glu Thr Met Ser Arg His Asp Ile Ile  
 50 55 60  
 Ala Trp Val Asn Asp Ile Val Ser Leu Asn Tyr Thr Lys Val Glu Gln  
 65 70 75 80  
 Leu Cys Ser Gly Ala Ala Tyr Cys Gln Phe Met Asp Met Leu Phe Pro  
 85 90 95  
 Gly Cys Ile Ser Leu Lys Lys Val Lys Phe Gln Ala Lys Leu Glu His

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|--|--|--|-----|--|--|--|-----|--|--|--|
|     |     |     |     |     |     |     |     |     |     | 100 |     |     |     |     |     |  |  | 105 |  |  |  |     |  |  |  | 110 |  |  |  |
| Glu | Tyr | Ile | His | Asn | Phe | Lys | Leu | Leu | Gln | Ala | Ser | Phe | Lys | Arg | Met |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 115 |     |     |     | 120 |     |  |  | 125 |  |  |  |     |  |  |  |     |  |  |  |
| Asn | Val | Asp | Lys | Val | Ile | Pro | Val | Glu | Lys | Leu | Val | Lys | Gly | Arg | Phe |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 130 |     |     |     | 135 |     |  |  | 140 |  |  |  |     |  |  |  |     |  |  |  |
| Gln | Asp | Asn | Leu | Asp | Phe | Ile | Gln | Trp | Phe | Lys | Lys | Phe | Tyr | Asp | Ala |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 145 |     |     |     | 150 |     |  |  | 155 |  |  |  | 160 |  |  |  |     |  |  |  |
| Asn | Tyr | Asp | Gly | Lys | Glu | Tyr | Asp | Pro | Val | Glu | Ala | Arg | Gln | Gly | Gln |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 165 |     |     |     | 170 |     |  |  | 175 |  |  |  |     |  |  |  |     |  |  |  |
| Asp | Ala | Ile | Pro | Pro | Asp | Pro | Gly | Glu | Gln | Ile | Phe | Asn | Leu | Pro |     |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 180 |     |     |     | 185 |     |  |  | 190 |  |  |  |     |  |  |  |     |  |  |  |
| Lys | Lys | Ser | His | His | Ala | Asn | Ser | Pro | Thr | Ala | Gly | Ala | Ala | Lys | Ser |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 195 |     |     |     | 200 |     |  |  | 205 |  |  |  |     |  |  |  |     |  |  |  |
| Ser | Pro | Ala | Ala | Lys | Pro | Gly | Ser | Thr | Pro | Ser | Arg | Pro | Ser | Ser | Ala |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 210 |     |     |     | 215 |     |  |  | 220 |  |  |  |     |  |  |  |     |  |  |  |
| Lys | Arg | Ala | Ser | Ser | Ser | Gly | Ser | Ala | Ser | Lys | Ser | Asp | Lys | Asp | Leu |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 225 |     |     |     | 230 |     |  |  | 235 |  |  |  | 240 |  |  |  |     |  |  |  |
| Glu | Thr | Gln | Val | Ile | Gln | Leu | Asn | Glu | Gln | Val | His | Ser | Leu | Lys | Leu |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 245 |     |     |     | 250 |     |  |  | 255 |  |  |  |     |  |  |  |     |  |  |  |
| Ala | Leu | Glu | Gly | Val | Glu | Lys | Glu | Arg | Asp | Phe | Tyr | Phe | Gly | Lys | Leu |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 260 |     |     |     | 265 |     |  |  | 270 |  |  |  |     |  |  |  |     |  |  |  |
| Arg | Glu | Ile | Glu | Leu | Leu | Cys | Gln | Glu | His | Gly | Gln | Glu | Asn | Asp | Asp |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 275 |     |     |     | 280 |     |  |  | 285 |  |  |  |     |  |  |  |     |  |  |  |
| Leu | Val | Gln | Arg | Leu | Met | Asp | Ile | Leu | Tyr | Ala | Ser | Glu | Glu | His | Glu |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 290 |     |     |     | 295 |     |  |  | 300 |  |  |  |     |  |  |  |     |  |  |  |
| Gly | His | Thr | Glu | Glu | Pro | Glu | Ala | Glu | Glu | Gln | Ala | His | Glu | Gln | Gln |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 305 |     |     |     | 310 |     |  |  | 315 |  |  |  | 320 |  |  |  |     |  |  |  |
| Pro | Pro | Gln | Gln | Glu | Glu | Tyr |     |     |     |     |     |     |     |     |     |  |  |     |  |  |  |     |  |  |  |     |  |  |  |
|     |     |     |     |     |     |     |     |     |     | 325 |     |     |     |     |     |  |  |     |  |  |  |     |  |  |  |     |  |  |  |

<210> 5737

<211> 340

<212> DNA

<213> Homo sapiens

<400> 5737

```

ncaaccccccc tggatgtggc tcttcggata tgcctttccc acggagccca gagacaaatg
60
tgcggtggccc tgggacagct ggaccggcct ccagacctcg cccatgacgg gaggagtctg
120
tggctgaaca tcaggggcaa ggaggcggct gccaatcca tgttccatgt ctccacgcca
180
ctgccagtga tgaccggtgg tttcctgatg tacctgagag ggagctgga gcctcagtgg
240
aagatgttgc agtgccatcc tcacctggtg gcttgaaatc ggccaagggtg ggagcattta
300
caccgcagaa atgacaccgc acgccagcgc cccgcggccg
340

```

<210> 5738

<211> 99

<212> PRT

<213> Homo sapiens

&lt;400&gt; 5738

```

Met Leu Pro Pro Trp Pro Ile Ser Ser His Gln Val Arg Met Ala Leu
 1           5           10           15
Gln His Leu Pro Leu Arg Leu Gln Leu Pro Ser Gln Val His Gln Glu
      20           25           30
Thr Thr Gly His His Trp Gln Trp Arg Gly Asp Met Glu His Gly Leu
      35           40           45
Gly Ser Arg Leu Leu Ala Pro Asp Val Gln Pro Gln Thr Pro Pro Val
      50           55           60
Met Gly Glu Val Trp Arg Pro Val Gln Leu Ser Gln Gly His Ala His
65           70           75           80
Leu Ser Leu Gly Ser Val Gly Lys Ala Tyr Pro Lys Ser His Ile Gln
      85           90           95
Gly Gly Xaa

```

&lt;210&gt; 5739

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5739

```

actttcataa ttgtaacatt gaaatcttta atctggaata tgtactggca taaagagtga
60
ggcacatata tggctttact attttccaga gggccaactg cttttactga ataatccatt
120
ttactcgtaa attggaaaca cctctagcct gtactaaatt tccatattta tttggcccgt
180
ttcaaagtcc tctattctct gctcatctgt ccacatctaa gtgctttaac tattgtggct
240
ttataaaata ttccaatatc ccataggacc ttatccttag tacttcctat tttaaagttt
300
tccttgacaga caggactttt aaataccatc tcacagcacc catcatgtcc tatcttcagg
360
aaataaaatc tctgggtatt tccaagggaa gtgaaggact gacaccatga ttagaaagca
420
gagccagcac catggcccgt ccctgagcat gtccagcaaa ccctgccagg ctctgcagct
480
cctgagcacc ctgccttcgg gtctgccagt gtgtgggggc cagaagagaa aaacaaccca
540
gggggaatgc ctcttcccc cagcaggaaa gcagcttggt catcatctgt ctgaaagcag
600
gtgctgcagc agctggcaac aaagccactc tgaaaggagc tgtgtgcact gcctgtctgg
660
aaggccatgc cagagtccat cgttgcctcc accctacctg tgcaggaaac ctggacatca
720
ccacttcaag gccctacett cctttctggg cagagcccaa ccacaataaa caggacgcgt
780

```

&lt;210&gt; 5740

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5740

```

Met Ile Arg Lys Gln Ser Gln His His Gly Pro Ser Leu Ser Met Ser
 1           5           10           15
Ser Lys Pro Cys Gln Ala Leu Gln Leu Leu Ser Thr Leu Pro Ser Gly
      20           25           30
Leu Pro Val Cys Gly Gly Gln Lys Arg Lys Thr Thr Gln Gly Glu Cys
      35           40           45
Leu Leu Pro Pro Ala Gly Lys Gln Leu Gly His His Leu Ser Glu Ser
      50           55           60
Arg Cys Cys Ser Ser Trp Gln Gln Ser His Ser Glu Arg Ser Cys Val
65           70           75           80
His Cys Leu Ser Gly Arg Pro Cys Gln Ser Pro Ser Leu Pro Pro Pro
      85           90           95
Tyr Leu Cys Arg Lys Pro Gly His His His Phe Lys Ala Leu Pro Ser
      100          105          110
Phe Leu Gly Arg Ala Gln Pro Gln
      115          120

```

&lt;210&gt; 5741

&lt;211&gt; 2444

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5741

```

ggcggctgct gctccggggcc tgggcacagc aagcggcgac gtcaagctcc cgggggttggc
60
gcggttggcg ggggcagctcc cgagcgtgag gaggtcggcg caggctacaa cagtgaggac
120
gagtatgagg cggctgcagc acgcatcgag gctatggacc ctgccactgt cgagcagcag
180
gagcattggt ttgaaaaggc cctacgagac aagaagggt tcatcatcaa gcagatgaag
240
gaggatggcg cctgtctctt ccgggctgta gctgaccagg tgtatggaga ccaggacatg
300
catgaggttg tgcgaaagca ttgcatggac tatctgatga agaatgccga ctacttctcc
360
aactatgtca cagaggactt taccacctac attaacagga agcggaaaaa caattgccat
420
ggcaaccaca ttgagatgca ggccatggca gagatgtaca accgtcctgt ggaggtgtac
480
cagtacagca cagaacccat caacacattc catgggatac atcaaaacga ggacgaaccc
540
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600
accattggtg tggggctggg cctgccatca ttcaaaccag ggtttgcaga gcagtctctg
660
atgaagaatg ccataaaaaac atcggaggag tcatggattg aacagcagat gctagaagac
720
aagaaacggg ccacagactg ggaggccaca aatgaagcca tcgaggagca ggtggctcgg
780
gaatcctacc tgcagtgggt gcgggatcag gagaaacagg ctccgccaggt ccgaggcccc
840
agccagcccc ggaaagccag cgccacatgc agttcggcca cagcagcagc ctccagtggc
900

```

ctggaggagt ggactagccg gtccccgcgg cagcggagtt cagcctcgtc acctgagcac  
960  
cctgagctgc atgctgaatt gggcatgaag cccccctccc caggcactgt tttagctctt  
1020  
gccaaacctc cttegccctg tgcgccaggt acaagcagtc agttctcggc agggggccgac  
1080  
cgggcaactt ccccccttgt gtccctctac cctgcttttg agtgccgggc cctcattcag  
1140  
cagatgtccc cctctgcctt tggctctgaat gactgggatg atgatgagat cctagcttcg  
1200  
gtgctggcag tgtcccaaca ggaataccta gacagtatga agaaaaacaa agtgcacaga  
1260  
gaccgcctcc cagacaagag ttgatggaga cccagggatt ggacaccatc tcccaacccc  
1320  
agtactcctg ctctccggtg ccacctcacc ttctttggtt tcttccctct tgcctccttc  
1380  
tgttctttct gctctccctt cttttccctc ctctcactt cctctctggc agcccccccc  
1440  
tgcactctct ctcatgccc ctgccactat cacctgtctc tctgccagct gatgtgcctt  
1500  
gttgcccccc accccatccc gcacagaacc atccctgcat tccacagggg actcggggcaa  
1560  
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1620  
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1680  
gaaaaacttg ccgccacccc ccgacactga tgccagggag gtgggaggaa gaagtgggaa  
1740  
atttcccttc ccagtacccc caagaacgtc tgagccttca atgttgaatt ttttctttat  
1800  
taaaattact tttatcttat aaaatcaact aatcaaaaat gatatagacg acagcactgg  
1860  
ctctgtgaag gtggcatctt tctgggcagg caggccatgg ggcatggagg agggtgcaaa  
1920  
gatatgggtt gctgtcttct ggccctccagc tgcattggagg ccggcccagg gtctaggggtg  
1980  
tgactggggc aagggcaggg cggcaggtgt caggccggct tggacaatga aaccctgacc  
2040  
ttgctgcatt ccttttgctt ccaccaccac tagcttcttt ggaatcttgg ggtgggggtc  
2100  
atctttgggg attatggctg ccaccgggga tttgagtgtg gggagtgtgg gagcagcctt  
2160  
ggcagatggg gcacccgtgc cctgcaggtg ttgacaagat ccgccatctg taatgtcctt  
2220  
ggcacaataa aaccaaagt cagtttcctt gagcgactct gtctgtgtg gggcaggggt  
2280  
tgggcgggccc tctgggcaga ggatgcaatg gcacggacct tggcttgacc tcagaggtgt  
2340  
gaatgtctc cagcagggtc tgtctggggg cctggagttt gtatttgatt tgctgcttat  
2400  
taaacctcct tctggacctt ttgccactgg aaaaaaaaaa aaaa  
2444

&lt;210&gt; 5742

&lt;211&gt; 427

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5742

Gly Gly Cys Cys Ser Gly Pro Gly His Ser Lys Arg Arg Arg Gln Ala  
 1 5 10 15  
 Pro Gly Val Gly Ala Val Gly Gly Gly Ser Pro Glu Arg Glu Glu Val  
 20 25 30  
 Gly Ala Gly Tyr Asn Ser Glu Asp Glu Tyr Glu Ala Ala Ala Arg  
 35 40 45  
 Ile Glu Ala Met Asp Pro Ala Thr Val Glu Gln Gln Glu His Trp Phe  
 50 55 60  
 Glu Lys Ala Leu Arg Asp Lys Lys Gly Phe Ile Ile Lys Gln Met Lys  
 65 70 75 80  
 Glu Asp Gly Ala Cys Leu Phe Arg Ala Val Ala Asp Gln Val Tyr Gly  
 85 90 95  
 Asp Gln Asp Met His Glu Val Val Arg Lys His Cys Met Asp Tyr Leu  
 100 105 110  
 Met Lys Asn Ala Asp Tyr Phe Ser Asn Tyr Val Thr Glu Asp Phe Thr  
 115 120 125  
 Thr Tyr Ile Asn Arg Lys Arg Lys Asn Asn Cys His Gly Asn His Ile  
 130 135 140  
 Glu Met Gln Ala Met Ala Glu Met Tyr Asn Arg Pro Val Glu Val Tyr  
 145 150 155 160  
 Gln Tyr Ser Thr Glu Pro Ile Asn Thr Phe His Gly Ile His Gln Asn  
 165 170 175  
 Glu Asp Glu Pro Ile Arg Val Ser Tyr His Arg Asn Ile His Tyr Asn  
 180 185 190  
 Ser Val Val Asn Pro Asn Lys Ala Thr Ile Gly Val Gly Leu Gly Leu  
 195 200 205  
 Pro Ser Phe Lys Pro Gly Phe Ala Glu Gln Ser Leu Met Lys Asn Ala  
 210 215 220  
 Ile Lys Thr Ser Glu Glu Ser Trp Ile Glu Gln Gln Met Leu Glu Asp  
 225 230 235 240  
 Lys Lys Arg Ala Thr Asp Trp Glu Ala Thr Asn Glu Ala Ile Glu Glu  
 245 250 255  
 Gln Val Ala Arg Glu Ser Tyr Leu Gln Trp Leu Arg Asp Gln Glu Lys  
 260 265 270  
 Gln Ala Arg Gln Val Arg Gly Pro Ser Gln Pro Arg Lys Ala Ser Ala  
 275 280 285  
 Thr Cys Ser Ser Ala Thr Ala Ala Ala Ser Ser Gly Leu Glu Glu Trp  
 290 295 300  
 Thr Ser Arg Ser Pro Arg Gln Arg Ser Ser Ala Ser Ser Pro Glu His  
 305 310 315 320  
 Pro Glu Leu His Ala Glu Leu Gly Met Lys Pro Pro Ser Pro Gly Thr  
 325 330 335  
 Val Leu Ala Leu Ala Lys Pro Pro Ser Pro Cys Ala Pro Gly Thr Ser  
 340 345 350  
 Ser Gln Phe Ser Ala Gly Ala Asp Arg Ala Thr Ser Pro Leu Val Ser  
 355 360 365  
 Leu Tyr Pro Ala Leu Glu Cys Arg Ala Leu Ile Gln Gln Met Ser Pro  
 370 375 380  
 Ser Ala Phe Gly Leu Asn Asp Trp Asp Asp Asp Glu Ile Leu Ala Ser

```

385              390              395              400
Val Leu Ala Val Ser Gln Gln Glu Tyr Leu Asp Ser Met Lys Lys Asn
              405              410              415
Lys Val His Arg Asp Pro Pro Pro Asp Lys Ser
              420              425

```

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<210> 5743
<211> 550
<212> DNA
<213> Homo sapiens
```

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<400> 5743
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120
gcgctctcagg cgtccctcct ggaccttccc ctatctgggt gggcggacac tggtaggatt
180
gcggtggagc cacatgtcct gcggtcccgg tatccagtct gggcaggaag cagcggggcg
240
tgagccagct ctccaggggg ctgacggaca tcttctggtg gaccagcatc tcctccagct
300
ccagctgggc ccccttgcca gggagagagg ccgccctacc tgggcccggcc ggcgatgtgc
360
tgtaaagggg cccgcagacc cggctgcccc actccagaga cgggccaaag cgggcggggc
420
ccgaaaggtc ccagaacggg gagggcggcc ccctccccgg gttcaccccc gcgcgaatcg
480
cgttgcctgg cgcccnngga ccctctcggc tggaccccgg gccgcctgc cgcagcgccc
540
ggcgccctca
550

```

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<210> 5744
<211> 95
<212> PRT
<213> Homo sapiens
```

|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 5744 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Arg        | Thr | Ser | Ser | Trp | Gly | Pro | Ala | Ser | Pro | Pro | Ala | Pro | Ala | Gly | Pro |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro        | Cys | Glu | Gly | Glu | Arg | Pro | Pro | Tyr | Leu | Gly | Arg | Pro | Ala | Met | Cys |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys        | Lys | Gly | Ala | Arg | Arg | Pro | Gly | Cys | Pro | Thr | Pro | Glu | Thr | Gly | Gln |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly        | Gly | Arg | Pro | Pro | Lys | Gly | Pro | Arg | Thr | Gly | Arg | Pro | Ala | Pro | Ser |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro        | Gly | Ser | Pro | Pro | Arg | Glu | Ser | Arg | Cys | Leu | Ala | Pro | Xaa | Asp | Pro |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu        | Gly | Trp | Thr | Pro | Gly | Pro | Pro | Ala | Ala | Ala | Pro | Gly | Ala | Leu |     |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

<210> 5745  
<211> 849

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5745

```

aaagtttttt tttttttctg cttcaggcac acggggaacc acgcgtttta atcaacgtat
60
cgataaaaaa caccagggca cggacactcc aggggaaatg cttattgagt aaagtatccg
120
aggaagtgat gcagggcagg taaacagctg gtgctcagca gcgagaggac gcgtcactct
180
gccgttctgc agggtgacgc cctccccgta cctcgctgag agccacctgc agacacagca
240
ggccacagca gaatgcacag gtcactgttg taggggaaca aatcgtaatg cccagagaaa
300
acctgatagt gaaatgtaaa cagacaggac aggggtggttc caggtggcca ccaccgccag
360
gcccttcccg tgattgatct gagagcttca cagccggcgg cactgggacc catttccaga
420
aacactggaa caccaggtct ctcagatgcc cgcgggaggg gccccaggga ggcccttctc
480
agcatcagct tttgggtgac aaacccata cagcaaaact gtacaaatac acacaacgga
540
ccccagctg acagtgagac caggacccta ggaaggtcag gtggtggtga agtcatcccc
600
tctccaaccg agcagagcct ggggttgggc tctgatgacc tcccgggcaa agtgtccagg
660
tggaggaagc aaactcccaa atggggcaca aaggtaataa aaagcagctg agagattgcg
720
ggatggggtc gggggccactt ggccgacacc ttctgcctcg cctggccggg cggggccagc
780
ctctcgccac aggatggagg gtgactgtgc accctgctcc atgtacagga cggggttgagg
840
gtcccatgg
849

```

&lt;210&gt; 5746

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5746

```

Met Thr Ser Pro Pro Pro Asp Leu Pro Arg Val Leu Val Ser Leu Ser
1          5          10          15
Ala Gly Gly Pro Leu Cys Val Phe Val Gln Phe Cys Cys Met Gly Phe
20          25          30
Val Thr Gln Lys Leu Met Leu Arg Lys Ala Ser Leu Gly Pro Leu Pro
35          40          45
Arg Ala Ser Glu Arg Pro Gly Val Pro Val Phe Leu Glu Met Gly Pro
50          55          60
Ser Ala Ala Gly Cys Glu Ala Leu Arg Ser Ile Thr Gly Arg Ala Trp
65          70          75          80
Arg Trp Trp Pro Pro Gly Thr Thr Leu Ser Cys Leu Phe Thr Phe His
85          90          95
Tyr Gln Val Phe Ser Gly His Tyr Asp Leu Phe Pro Tyr Asn Ser Asp

```

|             |             |             |             |             |     |  |
|-------------|-------------|-------------|-------------|-------------|-----|--|
|             | 100         |             | 105         |             | 110 |  |
| Leu Cys Ile | Leu Leu Trp | Pro Ala Val | Ser Ala Gly | Gly Ser Gln | Arg |  |
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| Gly Thr Gly | Arg Ala Ser | Pro Cys Arg | Thr Ala Glu |             |     |  |
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&lt;210&gt; 5747

&lt;211&gt; 1999

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5747

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&lt;210&gt; 5748

&lt;211&gt; 492

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5748

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| Val | Gln | Ile | Arg | Val | Ala | Ile | Gln | Glu | Ala | Glu | Asp | Val | Asp | Glu | Leu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Glu | Asp | Glu | Glu | Glu | Gly | Ala | Glu | Thr | Arg | Gly | Ala | Gly | Asp | Pro | Ala |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Tyr | Leu | Ser | Pro | Gly | Trp | Gly | Ser | Ala | Ser | Glu | Glu | Glu | Pro | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Gly | His | Ser | Gly | Thr | Thr | Ala | Ser | Gly | Gly | Glu | Asn | Glu | Arg | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Leu | Glu | Gln | Glu | Trp | Lys | Pro | Pro | Asp | Glu | Glu | Leu | Ile | Lys | Lys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Val | Asp | Gln | Ile | Glu | Phe | Tyr | Phe | Ser | Asp | Glu | Asn | Leu | Glu | Lys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Ala | Phe | Leu | Leu | Lys | His | Val | Arg | Arg | Asn | Lys | Leu | Gly | Tyr | Val |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Val | Lys | Leu | Leu | Thr | Ser | Phe | Lys | Lys | Val | Lys | His | Leu | Thr | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Trp | Arg | Thr | Thr | Ala | His | Ala | Leu | Lys | Tyr | Ser | Val | Val | Leu | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Asn | Glu | Asp | His | Arg | Lys | Val | Arg | Arg | Thr | Thr | Pro | Val | Pro | Leu |

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<210> 5749
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&lt;210&gt; 5750

&lt;211&gt; 522

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5750

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | Arg | Val | His | Thr | Leu | Pro | Thr | Leu | Leu | Gly | Ala | Val | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Pro | Gly | Cys | Arg | Glu | Leu | Leu | Cys | Leu | Leu | Met | Ile | Thr | Val | Thr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Gly | Pro | Gly | Ala | Ser | Gly | Val | Cys | Pro | Thr | Ala | Cys | Ile | Cys | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Asp | Ile | Val | Ser | Cys | Thr | Asn | Lys | Asn | Leu | Ser | Lys | Val | Pro | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asn | Leu | Phe | Arg | Leu | Ile | Lys | Arg | Leu | Asp | Leu | Ser | Tyr | Asn | Arg | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Leu | Leu | Asp | Ser | Glu | Trp | Ile | Pro | Val | Ser | Phe | Ala | Lys | Leu | Asn |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 85  |     |     |     |     |     |     |     |     |     | 90  |     |     |     | 95  |     |     |  |
| Thr | Leu | Ile | Leu | Arg | His | Asn | Asn | Ile | Thr | Thr | Ser | Ile | Ser | Thr | Gly | Ser |  |
| 100 |     |     |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |     |  |
| Phe | Ser | Thr | Thr | Pro | Asn | Leu | Lys | Cys | Leu | Asp | Leu | Ser | Ser | Asn | Lys |     |  |
| 115 |     |     |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |  |
| Leu | Lys | Thr | Val | Lys | Asn | Ala | Val | Phe | Gln | Glu | Leu | Lys | Val | Leu | Glu |     |  |
| 130 |     |     |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |  |
| Val | Leu | Leu | Leu | Tyr | Asn | Asn | His | Ile | Ser | Tyr | Leu | Asp | Pro | Ser | Ala |     |  |
| 145 |     |     |     |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |  |
| Phe | Gly | Gly | Leu | Ser | Gln | Leu | Gln | Lys | Leu | Tyr | Leu | Ser | Gly | Asn | Phe |     |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |     |  |
| Leu | Thr | Gln | Phe | Pro | Met | Asp | Leu | Tyr | Val | Gly | Arg | Phe | Lys | Leu | Ala |     |  |
|     |     |     |     | 180 |     |     |     | 185 |     |     |     | 190 |     |     |     |     |  |
| Glu | Leu | Met | Phe | Leu | Asp | Val | Ser | Tyr | Asn | Arg | Ile | Pro | Ser | Met | Pro |     |  |
| 195 |     |     |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |  |
| Met | His | His | Ile | Asn | Leu | Val | Pro | Gly | Lys | Gln | Leu | Arg | Gly | Ile | Tyr |     |  |
| 210 |     |     |     |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |  |
| Leu | His | Gly | Asn | Pro | Phe | Val | Cys | Asp | Cys | Ser | Leu | Tyr | Ser | Leu | Leu |     |  |
| 225 |     |     |     |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |  |
| Val | Phe | Trp | Tyr | Arg | Arg | His | Phe | Ser | Ser | Val | Met | Asp | Phe | Lys | Asn |     |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     | 255 |     |     |     |     |  |
| Asp | Tyr | Thr | Cys | Arg | Leu | Trp | Ser | Asp | Ser | Arg | His | Ser | Arg | Gln | Val |     |  |
|     |     |     |     | 260 |     |     |     | 265 |     |     |     | 270 |     |     |     |     |  |
| Leu | Leu | Leu | Gln | Asp | Ser | Phe | Met | Asn | Cys | Ser | Asp | Ser | Ile | Ile | Asn |     |  |
| 275 |     |     |     |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |  |
| Gly | Ser | Phe | Arg | Ala | Leu | Gly | Phe | Ile | His | Glu | Ala | Gln | Val | Gly | Glu |     |  |
| 290 |     |     |     |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |  |
| Arg | Leu | Met | Val | His | Cys | Asp | Ser | Lys | Thr | Gly | Asn | Ala | Asn | Thr | Asp |     |  |
| 305 |     |     |     |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     |  |
| Phe | Ile | Trp | Val | Gly | Pro | Asp | Asn | Arg | Leu | Leu | Glu | Pro | Asp | Lys | Glu |     |  |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     | 335 |     |     |     |     |  |
| Met | Glu | Asn | Phe | Tyr | Val | Phe | His | Asn | Gly | Ser | Leu | Val | Ile | Glu | Ser |     |  |
|     |     |     |     | 340 |     |     |     | 345 |     |     |     | 350 |     |     |     |     |  |
| Pro | Arg | Phe | Glu | Asp | Ala | Gly | Val | Tyr | Ser | Cys | Ile | Ala | Met | Asn | Lys |     |  |
| 355 |     |     |     |     |     |     |     | 360 |     |     |     | 365 |     |     |     |     |  |
| Gln | Arg | Leu | Leu | Asn | Glu | Thr | Val | Asp | Val | Thr | Ile | Asn | Val | Ser | Asn |     |  |
| 370 |     |     |     |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |  |
| Phe | Thr | Val | Ser | Arg | Ser | His | Ala | His | Glu | Ala | Phe | Asn | Thr | Ala | Phe |     |  |
| 385 |     |     |     |     |     |     |     | 390 |     |     |     | 395 |     |     |     |     |  |
| Thr | Thr | Leu | Ala | Ala | Cys | Val | Ala | Ser | Ile | Val | Leu | Val | Leu | Leu | Tyr |     |  |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     | 415 |     |     |     |     |  |
| Leu | Tyr | Leu | Thr | Pro | Cys | Pro | Cys | Lys | Cys | Lys | Thr | Lys | Arg | Gln | Lys |     |  |
| 420 |     |     |     |     |     |     |     | 425 |     |     |     | 430 |     |     |     |     |  |
| Asn | Met | Leu | His | Gln | Ser | Asn | Ala | His | Ser | Ser | Ile | Leu | Ser | Pro | Gly |     |  |
| 435 |     |     |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |     |  |
| Pro | Ala | Ser | Asp | Ala | Ser | Ala | Asp | Glu | Arg | Lys | Ala | Gly | Ala | Gly | Lys |     |  |
| 450 |     |     |     |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |  |
| Arg | Val | Val | Phe | Leu | Glu | Pro | Leu | Lys | Asp | Thr | Ala | Ala | Gly | Gln | Asn |     |  |
| 465 |     |     |     |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     |  |
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 Ser Ser Gly Phe Tyr Val Ala Met Asn Arg Arg Gly Arg Leu Tyr Gly

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|---|-----|-----|
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| Asn Gly His Asn Thr Tyr Ala Ser Gln Arg Trp Arg Arg Arg Gly Gln |     | 80  |
|   | 85  | 90  |
| Pro Met Phe Leu Ala Leu Asp Arg Arg Gly Gly Pro Arg Pro Gly Gly |     | 95  |
|   | 100 | 105 |
| Arg Thr Arg Arg Tyr His Leu Ser Ala His Phe Leu Pro Val Leu Val |     | 110 |
|   | 115 | 120 |
| Ser   |     | 125 |

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&lt;211&gt; 5668

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5753

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<211> 221

<212> PRT

<213> Homo sapiens

<400> 5754

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| 20  | 25  | 30  |     |
| Phe Pro Asn His Thr Asp Asn Leu Asn Ser Ser Gln Arg Leu Ser Pro |     |     |     |
| 35  | 40  | 45  |     |
| Ser Ser Arg Met Arg Lys Leu Pro Gln Gly Arg Pro Val Pro Pro Leu |     |     |     |
| 50  | 55  | 60  |     |
| Gly Pro Glu Thr Arg Val Ser Val Val Trp Val Glu Arg Tyr Asp Asp |     |     |     |
| 65  | 70  | 75  | 80  |
| Ile Glu Asn Phe Pro Leu Ser Glu Leu Met Thr Glu Ile Ser Thr Gly |     |     |     |
| 85  | 90  | 95  |     |
| Val Glu Thr Thr Ala Asn Ser Ser Thr Ser Leu Arg Ser Thr Thr Leu |     |     |     |
| 100   | 105 | 110 |     |
| Glu Lys Glu Val Pro Val Ile Phe Ile His Pro Leu Asn Thr Gly Leu |     |     |     |
| 115   | 120 | 125 |     |
| Phe Arg Ile Lys Ile Gln Gly Ala Thr Gly Lys Phe Asn Met Val Ile |     |     |     |
| 130   | 135 | 140 |     |
| Pro Leu Val Asp Gly Met Ile Val Ser Arg Arg Ala Leu Gly Phe Leu |     |     |     |
| 145   | 150 | 155 | 160 |
| Val Arg Gln Thr Val Ile Asn Ile Cys Arg Arg Lys Arg Leu Glu Ser |     |     |     |
| 165   | 170 | 175 |     |
| Asp Ser Tyr Ser Pro Pro His Val Arg Arg Lys Gln Lys Ile Thr Asp |     |     |     |
| 180   | 185 | 190 |     |
| Ile Val Asn Lys Tyr Arg Asn Lys Gln Leu Glu Pro Glu Phe Tyr Thr |     |     |     |
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&lt;210&gt; 5755

&lt;211&gt; 1513

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5755

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&lt;210&gt; 5756

&lt;211&gt; 415

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5756

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Val | Lys | Gly | Asn | Leu | Tyr | Cys | Glu | Val | Cys | Pro | Glu | Asp | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Leu | Ile | Val | Gln | Phe | Cys | Ala | Asn | Asp | Pro | Glu | Val | Phe | Val | Gln |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ala | Ala | Leu | Leu | Ala | Gln | Asp | Tyr | Cys | Asp | Ala | Ile | Asp | Leu | Asn | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Cys | Pro | Gln | Met | Ile | Ala | Lys | Arg | Gly | His | Tyr | Gly | Ala | Phe | Leu |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Asp | Glu | Trp | Asp | Leu | Leu | Gln | Arg | Met | Ile | Leu | Leu | Ala | His | Glu |
|     |     |     | 65  |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |
| Lys | Leu | Ser | Val | Pro | Val | Thr | Cys | Lys | Ile | Arg | Val | Phe | Pro | Glu | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Lys | Thr | Val | Arg | Tyr | Ala | Gln | Met | Leu | Glu | Lys | Ala | Gly | Cys | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Leu | Leu | Thr | Val | His | Gly | Arg | Thr | Lys | Glu | Gln | Lys | Gly | Pro | Leu | Ser |

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| Arg Cys Leu Arg Asp Thr Gly Val Gln Gly Val Met Ser Ala Glu Gly |     | 160 |
| 165   | 170 | 175 |
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| Leu Ser Tyr Val Arg Ala His Leu Phe Lys Leu Trp His His Thr Leu |     |     |
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| 225   | 230 | 235 |
| Glu Gly Ile Ala Ala Val Ser Gln Glu Leu Lys Leu Arg Cys Gln Glu |     | 240 |
| 245   | 250 | 255 |
| Glu Ile Ser Arg Gln Glu Gly Ala Lys Pro Thr Gly Asp Leu Pro Phe |     |     |
| 260   | 265 | 270 |
| His Trp Ile Cys Gln Pro Tyr Ile Arg Pro Gly Pro Arg Glu Gly Ser |     |     |
| 275   | 280 | 285 |
| Lys Glu Lys Ala Gly Ala Arg Ser Lys Arg Ala Leu Glu Glu Glu Glu |     |     |
| 290   | 295 | 300 |
| Gly Gly Thr Glu Val Leu Ser Lys Asn Lys Gln Lys Lys Gln Leu Arg |     |     |
| 305   | 310 | 315 |
| Asn Pro His Lys Thr Phe Asp Pro Ser Leu Lys Pro Lys Tyr Ala Lys |     | 320 |
| 325   | 330 | 335 |
| Cys Asp Gln Cys Gly Asn Pro Lys Gly Asn Arg Cys Val Phe Ser Leu |     |     |
| 340   | 345 | 350 |
| Cys Arg Gly Cys Cys Lys Lys Arg Ala Ser Lys Glu Thr Ala Asp Cys |     |     |
| 355   | 360 | 365 |
| Pro Gly His Gly Leu Leu Phe Lys Thr Lys Leu Glu Lys Ser Leu Ala |     |     |
| 370   | 375 | 380 |
| Trp Lys Glu Ala Gln Pro Glu Leu Gln Glu Pro Gln Pro Ala Ala Pro |     |     |
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&lt;210&gt; 5757

&lt;211&gt; 2362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5757

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<210> 5758

<211> 440

<212> PRT

<213> Homo sapiens

<400> 5758

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| Gly | Pro | Cys | Ser | Gln | Asp | Leu | Trp | Met | Phe | Pro | Ser | Ile | Leu | Met | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| His | Pro | Glu | Ala | Ala | Arg | Ala | Ile | Leu | Glu | Tyr | Arg | Ile | Arg | Thr | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Gly | Ala | Leu | Glu | Asn | Ala | Gln | Asn | Leu | Gly | Tyr | Gln | Gly | Ala | Lys |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Phe | Ala | Trp | Glu | Ser | Ala | Asp | Ser | Gly | Leu | Glu | Val | Cys | Pro | Glu | Asp |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ile | Tyr | Gly | Val | Gln | Glu | Val | His | Val | Asn | Gly | Ala | Val | Val | Leu | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Phe | Glu | Leu | Tyr | Tyr | His | Thr | Thr | Gln | Asp | Leu | Gln | Leu | Phe | Arg | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Gly | Gly | Trp | Glu | Val | Val | Arg | Ala | Val | Ala | Lys | Phe | Trp | Cys | Ser |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Arg | Val | Glu | Trp | Ser | Pro | Arg | Glu | Glu | Lys | Tyr | His | Leu | Arg | Gly | Val |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Met | Ser | Pro | Asp | Glu | Tyr | His | Ser | Gly | Val | Asn | Asn | Ser | Val | Tyr | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Val | Leu | Val | Gln | Asn | Ser | Leu | Arg | Phe | Ala | Ala | Ala | Leu | Ala | Gln |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Asp | Leu | Gly | Leu | Pro | Ile | Pro | Ser | Gln | Trp | Leu | Ala | Val | Ala | Asp | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ile | Lys | Val | Pro | Phe | Asp | Val | Glu | Gln | Asn | Phe | His | Pro | Glu | Phe | Asp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gly | Tyr | Glu | Pro | Gly | Glu | Val | Val | Lys | Gln | Ala | Asp | Val | Val | Leu | Leu |
|     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Gly | Tyr | Pro | Val | Pro | Phe | Ser | Leu | Ser | Pro | Asp | Val | Arg | Arg | Lys | Asn |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Leu | Glu | Ile | Tyr | Glu | Ala | Val | Thr | Ser | Pro | Gln | Gly | Pro | Ala | Met | Thr |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Trp | Ser | Met | Phe | Ala | Val | Gly | Trp | Met | Glu | Leu | Lys | Asp | Ala | Val | Arg |

|             |                         |                     |         |         |     |
|-------------|-------------------------|---------------------|---------|---------|-----|
|             | 245                     |                     | 250     |         | 255 |
| Ala Arg Gly | Leu Leu Asp Arg Ser Phe | Ala Asn Met Ala Glu | Pro Phe |         |     |
|             | 260                     | 265                 | 270     |         |     |
| Lys Val Trp | Thr Glu Asn Ala Asp Gly | Ser Gly Ala Val Asn | Phe Leu |         |     |
|             | 275                     | 280                 | 285     |         |     |
| Thr Gly Met | Gly Gly Phe Leu Gln Ala | Val Val Phe Gly Cys | Thr Gly |         |     |
|             | 290                     | 295                 | 300     |         |     |
| Phe Arg Val | Thr Arg Ala Gly Val Thr | Phe Asp Pro Val Cys | Leu Ser |         |     |
| 305         | 310                     | 315                 | 320     |         |     |
| Gly Ile Ser | Arg Val Ser Val Ser Gly | Ile Phe Tyr Gln Gly | Asn Lys |         |     |
|             | 325                     | 330                 | 335     |         |     |
| Leu Asn Phe | Ser Phe Ser Glu Asp Ser | Val Thr Val Glu Val | Thr Ala |         |     |
|             | 340                     | 345                 | 350     |         |     |
| Arg Ala Gly | Pro Trp Ala Pro His     | Leu Glu Ala Glu     | Leu Trp | Pro Ser |     |
|             | 355                     | 360                 | 365     |         |     |
| Gln Ser Arg | Leu Ser Leu Leu Pro Gly | His Lys Val Ser     | Phe Pro | Arg     |     |
|             | 370                     | 375                 | 380     |         |     |
| Ser Ala Gly | Arg Ile Gln Met Ser Pro | Pro Lys Leu Pro     | Gly Ser | Ser     |     |
| 385         | 390                     | 395                 | 400     |         |     |
| Ser Ser Glu | Phe Pro Gly Arg Thr     | Phe Ser Asp Val Arg | Asp Pro | Leu     |     |
|             | 405                     | 410                 | 415     |         |     |
| Gln Ser Pro | Leu Trp Val Thr Leu     | Gly Ser Ser Ser     | Pro Thr | Glu Ser |     |
|             | 420                     | 425                 | 430     |         |     |
| Leu Thr Val | Asp Pro Ala Ser Glu     |                     |         |         |     |
|             | 435                     | 440                 |         |         |     |

&lt;210&gt; 5759

&lt;211&gt; 1333

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5759

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&lt;210&gt; 5760

&lt;211&gt; 273

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5760

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Arg | Gln | Gly | Ala | Ser | Ser | Glu | Arg | Lys | Arg | Ala | Arg | Ile | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Lys | Ala | Gly | Ala | Ala | Asn | Gly | Phe | Leu | Met | Glu | Val | Cys | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Val | Glu | Ser | Ala | Val | Asn | Ala | Glu | Arg | Gly | Gly | Ala | Asp | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Glu | Leu | Cys | Ser | Gly | Leu | Ser | Glu | Gly | Gly | Thr | Thr | Pro | Ser | Met |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gly | Val | Leu | Gln | Val | Val | Lys | Gln | Ser | Val | Gln | Ile | Pro | Val | Phe | Val |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Met | Ile | Arg | Pro | Arg | Gly | Gly | Asp | Phe | Leu | Tyr | Ser | Asp | Arg | Glu | Ile |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| Glu | Val | Met | Lys | Ala | Asp | Ile | Arg | Leu | Ala | Lys | Leu | Tyr | Gly | Ala | Asp |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Gly | Leu | Val | Phe | Gly | Ala | Leu | Thr | Glu | Asp | Gly | His | Ile | Asp | Lys | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Leu | Cys | Met | Ser | Leu | Met | Ala | Ile | Cys | Arg | Pro | Leu | Pro | Val | Thr | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| His | Arg | Ala | Phe | Asp | Met | Val | His | Asp | Pro | Met | Ala | Ala | Leu | Glu | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Leu | Thr | Leu | Gly | Phe | Glu | Arg | Val | Leu | Thr | Ser | Gly | Cys | Asp | Ser |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ser | Ala | Leu | Glu | Gly | Leu | Pro | Leu | Ile | Lys | Arg | Leu | Ile | Glu | Gln | Ala |

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1020

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<211> 333

<212> PRT

<213> Homo sapiens

<400> 5762

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| Ile | Thr | Gly | Asp | Ile | Ser | Arg | Phe | Ala | Gly | Met | Gly | Asn | Leu | Leu | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Leu | Thr | Arg | Glu | Ile | Glu | Asn | Tyr | Pro | His | Phe | Phe | Leu | Asp | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asn | Ala | Gln | Pro | Thr | Glu | Gly | Glu | Arg | Glu | Ile | Trp | Asn | Gln | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ala | Val | Leu | Gln | Asp | Ser | Glu | Ser | Ile | Leu | Ala | Asp | Leu | Gln | Ala |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Lys | Gly | Ala | Gly | Pro | Glu | Ile | Arg | Asp | Ala | Ile | Gln | Asn | Pro | Asn |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Ile | Gln | Leu | Gln | Glu | Lys | Ala | Trp | Asn | Ala | Val | Cys | Pro | Leu | Val |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Arg | Leu | Lys | Arg | Phe | Tyr | Glu | Phe | Ser | Ile | Arg | Leu | Glu | Lys | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Gln | Ser | Leu | Leu | Glu | Ser | Leu | Thr | Cys | Pro | Pro | Tyr | Thr | Pro | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | His | Leu | Glu | Arg | Glu | Gln | Ala | Leu | Ala | Lys | Glu | Phe | Ala | Glu | Ile |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | His | Phe | Thr | Leu | Arg | Phe | Asp | Glu | Leu | Lys | Met | Arg | Asn | Pro | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ile | Gln | Asn | Asp | Phe | Ser | Tyr | Tyr | Arg | Arg | Thr | Ile | Ser | Arg | Asn | Arg |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Asn | Asn | Met | His | Leu | Asp | Ile | Glu | Asn | Glu | Val | Asn | Asn | Glu | Met |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |
| Ala | Asn | Arg | Met | Ser | Leu | Phe | Tyr | Ala | Glu | Ala | Thr | Pro | Met | Leu | Lys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Thr | Leu | Ser | Asn | Ala | Thr | Met | His | Phe | Val | Ser | Glu | Asn | Lys | Thr | Leu |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Ile | Glu | Asn | Thr | Thr | Asp | Cys | Leu | Ser | Thr | Met | Thr | Ser | Val | Cys |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     | 240 |     |
| Lys | Val | Met | Leu | Glu | Thr | Pro | Glu | Tyr | Arg | Ser | Arg | Phe | Thr | Ser | Glu |

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1080

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<212> PRT

<213> Homo sapiens

<400> 5764

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| Xaa | Pro | Pro | Leu | Pro | Lys | Met | Ala | Ser | Leu | Leu | Gln | Ser | Asp | Arg | Val |
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| Leu | Tyr | Leu | Val | Gln | Gly | Glu | Lys | Lys | Val | Arg | Ala | Pro | Leu | Ser | Gln |
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| Leu | Tyr | Phe | Cys | Arg | Tyr | Cys | Ser | Glu | Leu | Arg | Ser | Leu | Glu | Cys | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | His | Glu | Val | Asp | Ser | His | Tyr | Cys | Pro | Ser | Cys | Leu | Glu | Asn | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Ser | Ala | Glu | Ala | Lys | Leu | Lys | Lys | Asn | Arg | Cys | Ala | Asn | Cys | Phe |

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|
| Asp | Cys | Pro | Gly | Cys | Met | His | Thr | Leu | Ser | Thr | Arg | Ala | Thr | Ser | Ile |  |  |  |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |  |  |  |
| Ser | Thr | Gln | Leu | Pro | Asp | Asp | Pro | Ala | Lys | Thr | Thr | Met | Lys | Lys | Ala |  |  |  |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |  |  |  |
| Tyr | Tyr | Leu | Ala | Cys | Gly | Phe | Cys | Arg | Trp | Thr | Ser | Arg | Asp | Val | Gly |  |  |  |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |  |  |  |
| Met | Ala | Asp | Lys | Ser | Val | Ala | Ser | Gly | Gly | Trp | Gln | Glu | Pro | Glu | Asn |  |  |  |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |  |  |
| Pro | His | Thr | Gln | Arg | Met | Asn | Lys | Leu | Ile | Glu | Tyr | Tyr | Gln | Gln | Leu |  |  |  |  |  |  |
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|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |  |  |  |  |  |  |
| Arg | Asn | Tyr | Met | Pro | Leu | Ala | Phe | Ser | Asp | Lys | Tyr | Gly | Leu | Gly | Thr |  |  |  |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |  |  |  |
| Arg | Leu | Gln | Arg | Pro | Arg | Ala | Gly | Ala | Ser | Ile | Ser | Thr | Leu | Ala | Gly |  |  |  |  |  |  |
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| Leu | Ser | Leu | Lys | Glu | Gly | Glu | Asp | Gln | Lys | Glu | Val | Lys | Ile | Glu | Pro |  |  |  |  |  |  |
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| Ala | Gln | Ala | Val | Asp | Glu | Val | Glu | Pro | Leu | Pro | Glu | Asp | Tyr | Tyr | Thr |  |  |  |  |  |  |
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| Arg | Pro | Val | Asn | Leu | Thr | Glu | Val | Thr | Thr | Leu | Gln | Gln | Arg | Leu | Leu |  |  |  |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |  |  |  |  |  |  |
| Gln | Pro | Asp | Phe | Gln | Pro | Val | Cys | Ala | Ser | Gln | Leu | Tyr | Pro | Arg | His |  |  |  |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |  |  |  |
| Lys | His | Leu | Leu | Ile | Lys | Arg | Ser | Leu | Arg | Cys | Arg | Lys | Cys | Glu | His |  |  |  |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |  |  |  |
| Asn | Leu | Ser | Lys | Pro | Glu | Phe | Asn | Pro | Thr | Ser | Ile | Lys | Phe | Lys | Ile |  |  |  |  |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |  |  |  |  |
| Gln | Leu | Val | Ala | Val | Asn | Tyr | Ile | Pro | Glu | Val | Arg | Ile | Met | Ser | Ile |  |  |  |  |  |  |
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| Asn | Pro | Val | Glu | Asn | Leu | Thr | His | Val | Thr | Leu | Phe | Glu | Cys | Glu | Glu |  |  |  |  |  |  |
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&lt;213&gt; Homo sapiens

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|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     |     | 350 |     |  |  |  |  |
| Ala | Val | Ala | Leu | Pro | Lys | Leu | Pro | Ile | Ser | Leu | Thr | Asn | Thr | Asp | Leu |  |  |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |  |  |
| Lys | Val | Ala | Ser | Asp | Thr | Gln | Phe | Tyr | Pro | Gly | Leu | Gly | Leu | Ala | Leu |  |  |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |  |
| Ala | Phe | His | Asp | Gly | Ser | Val | His | Ile | Val | His | Arg | Leu | Ser | Leu | Gln |  |  |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |  |  |
| Thr | Met | Ala | Val | Phe | Tyr | Ser | Ser | Ala | Ala | Pro | Arg | Pro | Val | Asp | Glu |  |  |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |  |  |
| Pro | Ala | Met | Lys | Arg | Pro | Arg | Thr | Ala | Gly | Pro | Ala | Val | His | Leu | Lys |  |  |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |  |  |
| Ala | Met | Gln | Leu | Ser | Trp | Thr | Ser | Leu | Ala | Leu | Val | Gly | Ile | Asp | Ser |  |  |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |  |  |
| His | Gly | Lys | Leu | Ser | Val | Leu | Arg | Leu | Ser | Pro | Ser | Met | Gly | His | Pro |  |  |  |  |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |  |  |
| Leu | Glu | Val | Gly | Leu | Ala | Leu | Arg | His | Leu | Leu | Phe | Leu | Leu | Glu | Tyr |  |  |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |  |  |
| Cys | Met | Val | Thr | Gly | Tyr | Asp | Trp | Trp | Asp | Ile | Leu | Leu | His | Val | Gln |  |  |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |  |  |
| Pro | Ser | Met | Val | Gln | Ser | Leu | Val | Glu | Lys | Leu | His | Glu | Glu | Tyr | Thr |  |  |  |  |
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| Arg | Gln | Thr | Ala | Ala | Leu | Gln | Gln | Val | Leu | Ser | Thr | Arg | Ile | Leu | Ala |  |  |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |  |  |
| Met | Lys | Ala | Ser | Leu | Cys | Lys | Leu | Ser | Pro | Cys | Thr | Val | Thr | Arg | Val |  |  |  |  |
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| Cys | Asp | Tyr | His | Thr | Lys | Leu | Phe | Leu | Ile | Ala | Ile | Ser | Ser | Thr | Leu |  |  |  |  |
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| Lys | Ser | Leu | Leu | Arg | Pro | His | Phe | Leu | Asn | Thr | Pro | Asp | Lys | Ser | Pro |  |  |  |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |  |  |  |  |
| Gly | Asp | Arg | Leu | Thr | Glu | Ile | Cys | Thr | Lys | Ile | Thr | Asp | Val | Asp | Ile |  |  |  |  |
|     |     |     |     | 580 |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |  |  |
| Asp | Lys | Val | Met | Ile | Asn | Leu | Lys | Thr | Glu | Glu | Phe | Val | Leu | Asp | Met |  |  |  |  |
|     |     | 595 |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |  |  |  |
| Thr | His | Cys | Arg | Arg | Cys | Ser | Ser | Ser | Cys | Ser | Gly | Trp | Ala | Thr | Ser |  |  |  |  |
|     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |  |  |
| Cys | Cys | Thr | Cys | Trp | Pro | Ala | Tyr | Pro | Thr | Ser | Pro | Ala | Pro | Pro | Arg |  |  |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |  |  |
| Ser | Pro | Ala | Pro | Pro | Arg | Ser | Pro | Pro | Pro | Pro | Arg | Ser | Pro | Pro | Pro |  |  |  |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |  |  |
| Pro | Arg | Ser | Pro | Pro | Leu | His | Glu | Ala | Ser | Ala | Gly | Ser | Leu | Leu | Arg |  |  |  |  |
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| Pro | Gly | His | Ser | Phe | Leu | Arg | Asp | Gly | Thr | Ser | Leu | Gly | Met | Leu | Arg |  |  |  |  |
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| Glu | Leu | Met | Val | Val | Ile | Arg | Ile | Trp | Gly | Leu | Leu | Lys | Pro | Ser | Cys |  |  |  |  |
|     |     | 690 |     |     |     | 695 |     |     |     |     |     |     |     |     |     |  |  |  |  |

|   |   |     |     |     |
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|   | 805                                     |     | 810 | 815 |
| Leu His Leu Gly Ala Cys Pro Thr Glu Glu Cys Lys Ala Cys Thr Arg |   |     |     |     |
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| Cys Gly Cys Val Thr Met Leu Lys Ser Pro Asn Arg Thr Thr Ala Val |   |     |     |     |
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| Lys Gln Trp Glu Gln Arg Trp Ile Lys Asn Cys Leu Cys Gly Gly Leu |   |     |     |     |
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&lt;213&gt; Homo sapiens

&lt;400&gt; 5767

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&lt;210&gt; 5768

&lt;211&gt; 360

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5768

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Tyr | Thr | Glu | Ser | Ser | Pro | Leu | Arg | Glu | Ser | Thr | Ala | Ile | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Thr | Pro | Glu | Leu | Glu | Ser | Ile | Ile | Pro | Val | Pro | Ser | Asn | Lys | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Cys | Glu | Asn | Trp | Arg | Glu | Ile | His | His | Leu | Val | Phe | His | Val | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Ile | Cys | Phe | Ala | Val | Gly | Leu | Val | Ile | Pro | Thr | Thr | Leu | His | Leu |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Met | Ile | Phe | Leu | Arg | Gly | Met | Leu | Thr | Leu | Gly | Cys | Thr | Leu | Tyr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Val | Trp | Ala | Thr | Leu | Tyr | Arg | Cys | Ala | Leu | Asp | Ile | Met | Ile | Trp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Ser | Val | Phe | Leu | Gly | Val | Asn | Ile | Leu | His | Leu | Ser | Tyr | Leu | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Lys | Lys | Arg | Pro | Val | Lys | Ile | Glu | Lys | Glu | Leu | Ser | Gly | Met | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Arg | Leu | Phe | Glu | Pro | Leu | Arg | Val | Pro | Pro | Asp | Leu | Phe | Arg | Arg |

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Ile Tyr Pro Cys Ala Phe Ile Asp Ser Pro Glu Phe Arg Ser Thr Gln
      195              200              205
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225              230              235              240
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      260              265              270
Lys Ala Lys Lys Leu Glu His Gln Leu Ser Leu Cys Thr Gln Ile Ser
      275              280              285
Met Leu Glu Met Arg Asn Ser Ile Ala Ser Ser Ser Asp Ser Asp Asp
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Gly Leu His Gln Phe Leu Arg Ser Thr Ser Ser Met Ser Ser Leu His
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Val Ser Ser Pro His Gln Arg Ala Ser Ala Lys Met Lys Pro Ile Glu
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&lt;210&gt; 5769

&lt;211&gt; 427

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5769

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&lt;210&gt; 5770

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<211> 642

<212> PRT

<213> Homo sapiens

<400> 5772

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Thr | Cys | Asn | Glu | Gly | Phe | Leu | Leu | Glu | Gly | Ala | Arg | Ser | Arg | Val |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Leu | Ala | Asn | Gly | Ser | Trp | Ser | Gly | Ala | Thr | Pro | Asp | Cys | Val | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Arg | Cys | Ala | Thr | Pro | Pro | Gln | Leu | Ala | Asn | Gly | Val | Thr | Glu | Gly |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Asp | Tyr | Gly | Phe | Met | Lys | Glu | Val | Thr | Phe | His | Cys | His | Gly | Leu |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Leu | Ala | Arg | Cys | Ser | Lys | Thr | His | Leu | Ser | Val | Arg | Gly | Asn | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Ala | Glu | Ile | Pro | Leu | Cys | Lys | Pro | Val | Asn | Cys | Gly | Pro | Pro | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Leu | Ala | His | Gly | Phe | Pro | Asn | Gly | Phe | Ser | Phe | Ile | His | Gly | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Ile | Gln | Tyr | Gln | Cys | Phe | Pro | Gly | Tyr | Lys | Leu | His | Gly | Asn | Ser |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Arg | Arg | Cys | Leu | Ser | Asn | Gly | Ser | Trp | Ser | Gly | Ser | Ser | Pro | Ser |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Leu | Pro | Cys | Arg | Cys | Ser | Thr | Pro | Val | Ile | Glu | Tyr | Gly | Thr | Val |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Asn | Gly | Thr | Asp | Phe | Asp | Cys | Gly | Lys | Ala | Ala | Arg | Ile | Gln | Cys | Phe |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Gly | Phe | Lys | Leu | Leu | Gly | Leu | Ser | Glu | Ile | Thr | Cys | Glu | Ala | Asp |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Gly | Gln | Trp | Ser | Ser | Gly | Phe | Pro | His | Cys | Glu | His | Thr | Ser | Cys | Gly |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Leu | Pro | Met | Ile | Pro | Asn | Ala | Phe | Ile | Ser | Glu | Thr | Ser | Ser | Trp |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Glu | Asn | Val | Ile | Thr | Ser | Cys | Arg | Ser | Gly | Tyr | Val | Ile | Gln |     |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Gly | Ser | Ser | Asp | Leu | Ile | Cys | Thr | Glu | Lys | Gly | Val | Trp | Asn | Gln | Pro |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Pro | Val | Cys | Glu | Pro | Leu | Ser | Cys | Gly | Ser | Pro | Pro | Ser | Val | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asn | Ala | Val | Ala | Thr | Gly | Glu | Ala | His | Thr | Tyr | Glu | Ser | Glu | Val | Lys |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Arg | Cys | Leu | Glu | Gly | Tyr | Thr | Met | Asp | Thr | Asp | Thr | Asp | Thr | Ile |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Cys | Gln | Lys | Asp | Gly | Arg | Trp | Phe | Pro | Glu | Arg | Ile | Ser | Cys | Ser |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Pro | Lys | Lys | Cys | Pro | Leu | Pro | Glu | Asn | Ile | Thr | His | Ile | Leu | Val | His |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Asp | Asp | Phe | Ser | Val | Asn | Arg | Gln | Val | Ser | Val | Ser | Cys | Ala | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gly | Tyr | Thr | Phe | Glu | Gly | Val | Asn | Ile | Ser | Val | Cys | Gln | Leu | Asp | Gly |

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|---|-----|-----|
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| Thr Trp Glu Pro Pro Phe Ser Asp Glu Ser Cys Ser Pro Val Ser Cys |     |     |
| 370   | 375 | 380 |
| Gly Lys Pro Glu Ser Pro Glu His Gly Phe Val Val Gly Ser Lys Tyr |     |     |
| 385   | 390 | 395 |
| Thr Phe Glu Ser Thr Ile Ile Tyr Gln Cys Glu Pro Gly Tyr Glu Leu |     | 400 |
|   | 405 | 410 |
| Glu Gly Asn Arg Glu Arg Val Cys Gln Glu Asn Arg Gln Trp Ser Gly |     | 415 |
|   | 420 | 425 |
| Gly Val Ala Ile Cys Lys Glu Thr Arg Cys Glu Thr Pro Leu Glu Phe |     | 430 |
|   | 435 | 440 |
| Leu Asn Gly Lys Ala Asp Ile Glu Asn Arg Thr Thr Gly Pro Asn Val |     | 445 |
|   | 450 | 455 |
| Val Tyr Ser Cys Asn Arg Gly Tyr Ser Leu Glu Gly Pro Ser Glu Ala |     | 460 |
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| His Cys Thr Glu Asn Gly Thr Trp Ser His Pro Val Pro Leu Cys Lys |     | 480 |
|   | 485 | 490 |
| Pro Asn Pro Cys Pro Val Pro Phe Val Ile Pro Glu Asn Ala Leu Leu |     | 495 |
|   | 500 | 505 |
| Ser Glu Lys Glu Phe Tyr Val Asp Gln Asn Val Ser Ile Lys Cys Arg |     | 510 |
|   | 515 | 520 |
| Glu Gly Phe Leu Leu Gln Gly His Gly Ile Ile Thr Cys Asn Pro Asp |     | 525 |
|   | 530 | 535 |
| Glu Thr Trp Thr Gln Thr Ser Ala Lys Cys Glu Lys Ile Ser Cys Gly |     | 540 |
| 545   | 550 | 555 |
| Pro Pro Ala His Val Glu Asn Ala Ile Ala Arg Gly Val His Tyr Gln |     | 560 |
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|   | 580 | 585 |
| Gly Phe Leu Arg Ser Val Cys Leu Glu Asn Gly Thr Trp Thr Ser Pro |     | 590 |
|   | 595 | 600 |
| Pro Ile Cys Arg Ala Val Cys Arg Phe Pro Cys Gln Asn Gly Gly His |     | 605 |
|   | 610 | 615 |
| Leu Pro Thr Pro Lys Cys Leu Phe Leu Ser Arg Gly Leu Asp Gly Ala |     | 620 |
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&lt;210&gt; 5773

&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5773

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| Xaa | Arg | Val | Arg | Gly | Leu | Arg | Arg | Ala | Val | Arg | Ala | Ser | Pro | Gly | Arg |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     | 15  |     |     |     |
| Met | Gly | Arg | Ser | Arg | Ser | Arg | Ser | Ser | Arg | Ser | Lys | His | Thr | Lys |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Ser | Lys | His | Asn | Lys | Lys | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Ser | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Asp | Lys | Glu | Arg | Val | Arg | Lys | Arg | Ser | Lys | Ser | Arg | Glu | Ser | Lys | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asn | Arg | Arg | Arg | Glu | Ser | Arg | Ser | Arg | Ser | Arg | Ser | Thr | Asn | Thr | Ala |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Ser | Arg | Arg | Glu | Arg | Asp | Arg | Glu | Arg | Pro | Arg | Pro | Arg | Pro | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Ser | Thr | Ser | Ser | Gly | Ala | Arg |     |     |     |     |     |     |     |     |
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<210> 5775

<211> 1441

<212> DNA

<213> Homo sapiens

<400> 5775

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 240  
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 960  
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 1080  
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 1320  
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 1440  
 a  
 1441

<210> 5776

<211> 359

<212> PRT

<213> Homo sapiens

<400> 5776

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ile | Asn | Met | Pro | Lys | Val | Leu | Ser | Gln | Pro | Ser | Asp | Leu | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Gln | Asp | Val | Glu | Glu | Val | Glu | Ile | Gly | Arg | Asp | Thr | Phe | Trp | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Glu | Pro | Lys | Pro | Glu | Gln | Ala | Pro | Arg | Ser | Pro | Gly | Ser | Gln |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Pro | Asp | Glu | Gly | Ala | Gly | Gly | Ala | Leu | Arg | Thr | Ser | Val | Arg | Ser |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Pro | Arg | Arg | Ala | Arg | Cys | Ser | Ala | Gly | Phe | Gly | Pro | Glu | Ser | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ala | Glu | Arg | Pro | Ala | Gly | Gln | Pro | Pro | Gly | Ala | Val | Pro | Cys | Ala | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Arg | Gly | Ala | Trp | Arg | Val | Thr | Leu | Val | Gln | Gln | Ala | Ala | Ala | Gly |

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      100      105      110
Pro Glu Gly Ala Pro Glu Arg Ala Ala Glu Leu Gly Val Asn Phe Gly
      115      120      125
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      130      135      140
Ala Cys Gly Lys Ser Phe Lys Tyr Asn Ser Leu Leu Leu Lys His Gln
      145      150      155      160
Arg Ile His Thr Gly Glu Lys Pro Tyr Ala Cys His Glu Cys Gly Lys
      165      170      175
Cys Phe Ala Ala Ser Arg Phe Ile Gln His Gln Arg Ile His Ser
      180      185      190
Gly Glu Lys Pro Tyr Ala Cys Pro Glu Cys Ser Lys Thr Phe Thr Arg
      195      200      205
Ser Ser Asn Leu Ile Lys His Gln Val Ile His Ser Gly Glu Arg Pro
      210      215      220
Phe Ala Cys Gly Asp Cys Gly Lys Leu Phe Arg Arg Ser Phe Ala Leu
      225      230      235      240
Leu Glu His Ala Arg Val His Ser Gly Glu Lys Pro Tyr Glu Cys Ser
      245      250      255
Asp Cys Gly Lys Cys Phe Arg Gly Arg Ser His Phe Phe Arg His Asn
      260      265      270
Arg Thr His Thr Gly Glu Lys Pro Tyr His Cys Leu Asp Cys Gly Lys
      275      280      285
Ser Phe Ser His Ser Ser His Leu Ile Lys His Gln Arg Thr His Arg
      290      295      300
Gly Val Arg Pro Tyr Ala Cys Pro Leu Cys Gly Lys Ser Phe Ser Arg
      305      310      315      320
Arg Ser Asn Leu His Arg His Glu Lys Ile His Thr Thr Gly Pro Lys
      325      330      335
Ala Leu Ala Met Leu Met Leu Gly Ala Ala Ala Ala Gly Ala Leu Ala
      340      345      350
Thr Pro Pro Pro Ala Pro Thr
      355

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&lt;210&gt; 5777

&lt;211&gt; 1431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5777

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120
tgcgtgcggc ctgcctcaag caaccaggta cgtaggtcgg cggccagct cggcgctgcg
180
gtgggagccg gagggcgaca gtcagagccg gggtgccagc gggacgcgac cgccagatcc
240
acttaggacc ccgtcgttct gcgaagcggc cacgtctgag tcccggggcc tcctcgctgc
300
gcagatgtcg ccttaggacc tcggccagga taccctctgc catgctcttg tgctgcccgt
360
gatcaccgac tggcccttgt aagcaccttc gcagcaggaa gcccagagct gcgcctgccc
420

```

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 600  
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 720  
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&lt;210&gt; 5778

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5778

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Thr | Leu | Lys | Gly | Ser | Ser | Asp | Arg | Pro | Gln | Met | Gly | Met | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     | 15  |     |     |     |
| Gln | Ala | Lys | Met | Arg | Pro | Leu | Gln | Pro | Leu | Pro | Gln | Pro | Ser | Glu | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ala | Gly | Ala | Ala | Leu | Gly | Phe | Leu | Leu | Arg | Arg | Cys | Leu | Gln | Gly | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Val | Gly | Asp | His | Gly | Gln | His | Lys | Ser | Met | Ala | Glu | Gly | Ile | Leu | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Val | Leu | Arg | Arg | His | Leu | Gln | His | Glu | Glu | Ala | Pro | Gly | Leu | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Gly | Arg | Phe | Ala | Glu | Arg | Arg | Gly | Pro | Lys | Trp | Ile | Trp | Arg | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Pro | Ala | Gly | Thr | Pro | Ala | Leu | Thr | Val | Ala | Leu | Arg | Leu | Pro | Pro |

4944

&lt;210&gt; 5781

&lt;211&gt; 845

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5781

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240
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360
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420
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660
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720
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780
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840
ctctg
845

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&lt;210&gt; 5782

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5782

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Gly Val Pro Cys Pro Lys Ile Glu Gly Ala Val Gly Leu Gly Ser Gly
1           5           10          15
Ser Arg Pro Arg Gly Ala Gly Val Arg Cys His Phe Cys Gly Val Asn
20          25          30
Ala Pro Thr Leu Ala Asp Phe Lys Pro Pro Gly Glu Asp Gly Thr Ala
35          40          45
Thr Ser Ser Thr Glu Ala Pro Ala Ala Leu Ser Gly Thr Ser Gly Pro
50          55          60
Gly Xaa Ser Ser Pro Pro Gly Gly Pro Gly Leu Gly Pro Leu Pro Ala
65          70          75          80
Pro Glu Ala Leu Gln Pro Gly Val Gln Arg Gly Gly Pro Ala Gly His

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |
| Gly | Gln | Ala | Pro | Ala | Pro | Pro | Ala | Pro | Gly | Gln | Ala | Gly | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 | His |
| Pro | Gly | Ala | Ala | Pro | Ser | Pro | Arg | Cys | Ser | Ser | Gly | Asn | His |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 | Arg |
| Ser | Leu | Ala | Val | Ala | Trp | Arg | His | Gly | Thr | Trp | Ile | Gly | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 | Pro | Pro |
| Pro | Cys | Pro |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 5783

&lt;211&gt; 1839

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5783

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 120  
 gctgggactc tccttcttag tacacaccga ctgatttgga gagatcagaa aaatcatgag  
 180  
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 240  
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 1620  
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 1680  
 aaaaatgaaa taattttatt tgacacatta tttatatata ttctatctag gtttctcttt  
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 1800  
 catttttggc ttttccaaat gctgtggaat ttttgga  
 1839

&lt;210&gt; 5784

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5784

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Arg | Phe | Val | Trp | Thr | Ser | Gly | Leu | Leu | Glu | Ile | Asn | Glu | Thr |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Val | Ile | Gln | Arg | Gly | Val | Arg | Ile | Tyr | Asp | Gly | Glu | Glu | Lys |     |
|     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |     |
| Ile | Lys | Phe | Asp | Ala | Gly | Thr | Leu | Leu | Ser | Thr | His | Arg | Leu | Ile |     |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Trp | Arg | Asp | Gln | Lys | Asn | His | Glu | Cys | Cys | Met | Ala | Ile | Leu | Leu | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Ile | Val | Phe | Ile | Glu | Glu | Gln | Ala | Ala | Gly | Ile | Gly | Lys | Ser | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Lys | Ile | Val | Val | His | Leu | His | Pro | Ala | Pro | Pro | Asn | Lys | Glu | Pro | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Pro | Phe | Gln | Ser | Ser | Lys | Asn | Ser | Tyr | Ile | Lys | Leu | Ser | Phe | Lys | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Gly | Gln | Ile | Glu | Phe | Tyr | Arg | Arg | Leu | Ser | Glu | Glu | Met | Thr | Gln |
|     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Arg | Arg | Trp | Glu | Asn | Met | Pro | Val | Ser | Gln | Ser | Leu | Gln | Thr | Asn | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Pro | Gln | Pro | Gly | Arg | Ile | Arg | Ala | Val | Gly | Ile | Val | Gly | Ile | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Arg | Lys | Leu | Glu | Glu | Lys | Arg | Lys | Glu | Thr | Asp | Lys | Asn | Ile | Ser | Glu |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ala | Phe | Glu | Asp | Leu | Ser | Lys | Leu | Met | Ile | Lys | Ala | Lys | Glu | Met | Val |

180 185 190  
 Glu Leu Ser Lys Ser Ile Ala Asn Lys Ile Lys Asp Lys Gln Gly Asp  
 195 200 205  
 Ile Thr Glu Asp Glu Thr Ile Arg Phe Lys Ser Tyr Leu Leu Ser Met  
 210 215 220  
 Gly Ile Ala Asn Pro Val Thr Arg Glu Thr Tyr Gly Ser Gly Thr Gln  
 225 230 235 240  
 Tyr His Met Gln Leu Ala Lys Gln Leu Ala Gly Ile Leu Gln Val Pro  
 245 250 255  
 Leu Glu Glu Arg Gly Gly Ile Met Ser Leu Thr Glu Val Tyr Cys Leu  
 260 265 270  
 Val Asn Arg Ala Arg Gly Met Glu Leu Leu Ser Pro Glu Asp Leu Val  
 275 280 285  
 Asn Ala Cys Lys Met Leu Glu Ala Leu Lys Leu Pro Leu Arg Leu Arg  
 290 295 300  
 Val Phe Asp Ser Gly Val Met Val Ile Glu Leu Gln Ser His Lys Glu  
 305 310 315 320  
 Glu Glu Met Val Ala Ser Ala Leu Glu Thr Val Ser Glu Lys Gly Ser  
 325 330 335  
 Leu Thr Ser Glu Glu Phe Ala Lys Leu Val Gly Met Ser Val Leu Leu  
 340 345 350  
 Ala Lys Glu Arg Leu Leu Leu Ala Glu Lys Met Gly His Leu Cys Arg  
 355 360 365  
 Asp Asp Ser Val Glu Gly Leu Arg Phe Tyr Pro Asn Leu Phe Met Thr  
 370 375 380  
 Gln Ser  
 385

&lt;210&gt; 5785

&lt;211&gt; 785

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5785

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<210> 5786

<211> 159

<212> PRT

<213> Homo sapiens

<400> 5786

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| Met | Tyr | Thr | Ile | Ile | Asn | Gly | Pro | Ser | Lys | Leu | Val | Ala | Gln | Pro | His |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ser | His | Ala | Ala | Ala | Gly | Glu | Gly | Pro | Ala | Pro | Gly | Ala | Pro | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Pro | Ala | Ala | Arg | Ala | Ala | Asp | Leu | Ala | Ala | Pro | Ala | Gly | Ala | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Leu | Ala | Gln | Pro | Leu | Gly | Pro | Trp | Pro | Leu | Ser | Ser | Ala | Gly | Pro | Arg |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Val | Phe | Asn | Arg | Val | Asn | Arg | Arg | Arg | Asp | Pro | Ser | Lys | Ser | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Leu | Gln | Gly | Thr | Gln | Glu | Thr | Tyr | Thr | Leu | Ala | His | Lys | Glu | Asn |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Arg | Phe | Val | Ser | Glu | Ala | Trp | Gln | Gln | Val | Gln | Gln | Gln | Leu | Asp |
|     |     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Gly | Pro | Ala | Gly | Glu | Gly | Gly | Pro | Arg | Pro | Val | Gln | Tyr | Val | Glu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Arg | Thr | Pro | Asn | Pro | Arg | Leu | Gln | Asn | Phe | Val | Pro | Ile | Asp | Leu | Asp |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Glu | Trp | Trp | Ala | Gln | Gln | Phe | Leu | Ala | Arg | Ile | Thr | Ser | Cys | Ser |     |
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<211> 1683

<212> DNA

<213> Homo sapiens

<400> 5787

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&lt;210&gt; 5788

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5788

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|   |     |     |     |
|---|-----|-----|-----|
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| 20  | 25  | 30  |     |
| Ser Cys Glu Tyr Glu Thr Arg Leu Pro Gly Asn His Ser Thr Ser Gln |     |     |     |
| 35  | 40  | 45  |     |
| Glu Ile Phe Arg Gln Arg Phe Arg His Leu Arg Tyr Gln Glu Thr Pro |     |     |     |
| 50  | 55  | 60  |     |
| Gly Pro Arg Glu Ala Leu Ser Gln Leu Arg Val Leu Cys Cys Glu Trp |     |     |     |
| 65  | 70  | 75  | 80  |
| Leu Arg Pro Glu Lys His Thr Lys Glu Gln Ile Leu Glu Phe Leu Val |     |     |     |
| 85  | 90  | 95  |     |
| Leu Glu Gln Phe Leu Thr Ile Leu Pro Glu Glu Leu Gln Ser Trp Val |     |     |     |
| 100   | 105 | 110 |     |
| Arg Gly His His Pro Lys Ser Gly Glu Glu Ala Val Thr Val Leu Glu |     |     |     |
| 115   | 120 | 125 |     |
| Asp Leu Glu Lys Gly Leu Glu Pro Glu Pro Gln Val Pro Gly Pro Ala |     |     |     |
| 130   | 135 | 140 |     |
| His Gly Pro Ala Gln Glu Glu Pro Trp Glu Lys Lys Glu Ser Leu Gly |     |     |     |
| 145   | 150 | 155 | 160 |
| Ala Ala Gln Glu Ala Leu Ser Ile Gln Leu Gln Pro Lys Glu Thr Gln |     |     |     |
| 165   | 170 | 175 |     |
| Pro Phe Pro Lys Ser Glu Gln Val Tyr Leu His Phe Leu Ser Val Val |     |     |     |
| 180   | 185 | 190 |     |
| Thr Glu Asp Gly Pro Glu Pro Lys Asp Lys Gly Ser Leu Pro Gln Pro |     |     |     |
| 195   | 200 | 205 |     |
| Pro Ile Thr Glu Val Glu Ser Gln Val Phe Ser Glu Lys Leu Ala Thr |     |     |     |
| 210   | 215 | 220 |     |
| Asp Thr Ser Thr Phe Glu Ala Thr Ser Glu Gly Thr Leu Glu Leu Gln |     |     |     |
| 225   | 230 | 235 | 240 |
| Gln Arg Asn Pro Lys Ala Glu Arg Leu Arg Trp Ser Pro Ala Gln Glu |     |     |     |
| 245   | 250 | 255 |     |
| Glu Ser Phe Arg Gln Met Val Val Ile His Lys Glu Ile Pro Thr Gly |     |     |     |
| 260   | 265 | 270 |     |
| Lys Lys Asp His Glu Cys Ser Glu Cys Gly Lys Thr Phe Ile Tyr Asn |     |     |     |
| 275   | 280 | 285 |     |
| Ser His Leu Val Val His Gln Arg Val His Ser Gly Glu Lys Pro Tyr |     |     |     |
| 290   | 295 | 300 |     |
| Lys Cys Ser Asp Cys Gly Lys Thr Phe Lys Gln Ser Ser Asn Leu Gly |     |     |     |
| 305   | 310 | 315 | 320 |
| Gln His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Glu Cys Asn Glu |     |     |     |
| 325   | 330 | 335 |     |
| Cys Gly Lys Ala Phe Arg Trp Gly Ala His Leu Val Gln His Gln Arg |     |     |     |
| 340   | 345 | 350 |     |
| Ile His Ser Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala |     |     |     |
| 355   | 360 | 365 |     |
| Phe Ser Gln Ser Ser Tyr Leu Ser Gln His Arg Arg Ile His Ser Gly |     |     |     |
| 370   | 375 | 380 |     |
| Glu Lys Pro Phe Ile Cys Lys Glu Cys Gly Lys Ala Tyr Gly Trp Cys |     |     |     |
| 385   | 390 | 395 | 400 |
| Ser Glu Leu Ile Arg His Arg Arg Val His Ala Arg Lys Glu Pro Ser |     |     |     |
| 405   | 410 | 415 |     |
| His   |     |     |     |

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<210> 5790  
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&lt;400&gt; 5790

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 Pro Gln Pro Gly Ala Gly His Asp Glu Gly Pro Gly Ser Gly Trp Ala  
 50 55 60  
 Ala Lys Gly Thr Val Arg Gly Trp Asn Arg Arg Ala Arg Glu Ser Pro  
 65 70 75 80  
 Gly His Val Ser Glu Pro Asp Arg Thr Gln Leu Ser Gln Asp Leu Gly  
 85 90 95  
 Gly Gly Thr Leu Ala Met Asp Thr Leu Pro Asp Asn Arg Thr Arg Val  
 100 105 110  
 Val Glu Asp Asn His Ser Tyr Tyr Val Ser Arg Leu Tyr Gly Pro Ser  
 115 120 125  
 Glu Pro His Ser Arg Glu Leu Trp Val Asp Val Ala Glu Ala Asn Arg  
 130 135 140  
 Ser Gln Val Lys Ile His Thr Ile Leu Ser Asn Thr His Arg Gln Ala  
 145 150 155 160  
 Ser Arg Val Val Leu Ser Phe Asp Phe Pro Phe Tyr Gly His Pro Leu  
 165 170 175  
 Arg Gln Ile Thr Ile Ala Thr Gly Gly Phe Ile Phe Met Gly Asp Val  
 180 185 190  
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 Asn Gly Thr Val Phe Val Val Gln Trp Asp His Val Tyr Leu Gln Gly  
 225 230 235 240  
 Trp Glu Asp Lys Gly Ser Phe Thr Phe Gln Ala Ala Leu His His Asp  
 245 250 255  
 Gly Arg Ile Val Phe Ala Tyr Lys Glu Ile Pro Met Ser Val Pro Glu  
 260 265 270  
 Ile Ser Ser Ser Gln His Pro Val Lys Thr Gly Leu Ser Asp Ala Phe  
 275 280 285  
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 Ile Phe Glu Tyr His Arg Ile Glu Leu Asp Pro Ser Lys Val Thr Ser  
 305 310 315 320  
 Met Ser Ala Val Glu Phe Thr Pro Leu Pro Thr Cys Leu Gln His Arg  
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 Cys His Val Leu Gln Arg Cys Ser Ser Gly Phe Asp Arg Tyr Arg Gln  
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 Glu Trp Met Asp Tyr Gly Cys Ala Gln Glu Ala Glu Gly Arg Met Cys  
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&lt;210&gt; 5791

&lt;211&gt; 3285

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5791

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<211> 479

<212> PRT

<213> Homo sapiens

<400> 5792

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| Met | Ser | Asp | Val | Thr | Ile | Val | Lys | Glu | Gly | Trp | Val | Gln | Lys | Arg | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Tyr | Ile | Lys | Asn | Trp | Arg | Pro | Arg | Tyr | Phe | Leu | Leu | Lys | Thr | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ser | Phe | Ile | Gly | Tyr | Lys | Glu | Lys | Pro | Gln | Asp | Val | Asp | Leu | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Pro | Leu | Asn | Asn | Phe | Ser | Val | Ala | Lys | Cys | Gln | Leu | Met | Lys | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Arg | Pro | Lys | Pro | Asn | Thr | Phe | Ile | Ile | Arg | Cys | Leu | Gln | Trp | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Val | Ile | Glu | Arg | Thr | Phe | His | Val | Asp | Thr | Pro | Glu | Glu | Arg | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Trp | Thr | Glu | Ala | Ile | Gln | Ala | Val | Ala | Asp | Arg | Leu | Gln | Arg | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Glu | Glu | Arg | Met | Asn | Cys | Ser | Pro | Thr | Ser | Gln | Ile | Asp | Asn | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Glu | Glu | Glu | Met | Asp | Ala | Ser | Thr | Thr | His | His | Lys | Arg | Lys | Thr |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Met | Asn | Asp | Phe | Asp | Tyr | Leu | Lys | Leu | Leu | Gly | Lys | Gly | Thr | Phe | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Val | Ile | Leu | Val | Arg | Glu | Lys | Ala | Ser | Gly | Lys | Tyr | Tyr | Ala | Met |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |
| Lys | Ile | Leu | Lys | Lys | Glu | Val | Ile | Ile | Ala | Lys | Asp | Glu | Val | Ala | His |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Leu | Thr | Glu | Ser | Arg | Val | Leu | Lys | Asn | Thr | Arg | His | Pro | Phe | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Ser | Leu | Lys | Tyr | Ser | Phe | Gln | Thr | Lys | Asp | Arg | Leu | Cys | Phe | Val |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Met | Glu | Tyr | Val | Asn | Gly | Gly | Glu | Leu | Phe | Phe | His | Leu | Ser | Arg | Glu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Val | Phe | Ser | Glu | Asp | Arg | Thr | Arg | Phe | Tyr | Gly | Ala | Glu | Ile | Val |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Ala | Leu | Asp | Tyr | Leu | His | Ser | Gly | Lys | Ile | Val | Tyr | Arg | Asp | Leu |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Lys | Leu | Glu | Asn | Leu | Met | Leu | Asp | Lys | Asp | Gly | His | Ile | Lys | Ile | Thr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asp | Phe | Gly | Leu | Cys | Lys | Glu | Gly | Ile | Thr | Asp | Ala | Ala | Thr | Met | Lys |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Ser | Cys | Gly | Thr | Pro | Glu | Tyr | Leu | Ala | Pro | Glu | Val | Leu | Glu | Asp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asn | Asp | Tyr | Gly | Arg | Ala | Val | Asp | Trp | Trp | Gly | Leu | Gly | Val | Val | Met |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Tyr | Glu | Met | Met | Cys | Gly | Arg | Leu | Pro | Phe | Tyr | Asn | Gln | Asp | His | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Lys | Leu | Phe | Glu | Leu | Ile | Leu | Met | Glu | Asp | Ile | Lys | Phe | Pro | Arg | Thr |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Ser | Ser | Asp | Ala | Lys | Ser | Leu | Leu | Ser | Gly | Leu | Leu | Ile | Lys | Asp |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Asn | Lys | Arg | Leu | Gly | Gly | Gly | Pro | Asp | Asp | Ala | Lys | Glu | Ile | Met |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | His | Ser | Phe | Phe | Ser | Gly | Val | Asn | Trp | Gln | Asp | Val | Tyr | Asp | Lys |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Lys | Leu | Val | Pro | Pro | Phe | Lys | Pro | Gln | Val | Thr | Ser | Glu | Thr | Asp | Thr |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Arg | Tyr | Phe | Asp | Glu | Glu | Phe | Thr | Ala | Gln | Thr | Ile | Thr | Ile | Thr | Pro |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Pro | Glu | Lys | Tyr | Asp | Glu | Asp | Gly | Met | Asp | Cys | Met | Asp | Asn | Glu | Arg |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |
| Arg | Pro | His | Phe | Pro | Gln | Phe | Ser | Tyr | Ser | Ala | Ser | Gly | Arg | Glu |     |
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&lt;210&gt; 5796

&lt;211&gt; 200

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5796

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| Met | Ala | Ala | Ser | Met | His | Gly | Gln | Pro | Ser | Pro | Ser | Leu | Glu | Asp | Ala |
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|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
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| Gly | Thr | Thr | Ala | Gly | Phe | Ser | Gly | Ile | Phe | Ser | Asn | Phe | Leu | Phe | Arg |
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| Arg | Cys | Phe | Lys | Val | Lys | His | Asp | Ala | Leu | Lys | Thr | Tyr | Ala | Ser | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Thr | Leu | Pro | Phe | Leu | Ser | Thr | Val | Val | Thr | Asp | Lys | Leu | Phe | Val |
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Pro Leu Pro Pro Lys Gly Arg Val Leu Ile His Trp Met Thr Leu Cys
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Gln Thr Gln Met Lys Leu Met Ala Ile Pro Leu Val Phe Gln Ile Met
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Phe Gly Ile Leu Asn Gly Leu Tyr His Tyr Ala Val Phe Glu Glu Thr
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&lt;211&gt; 109

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&lt;400&gt; 5798

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      35          40          45
Ser Gln Arg Asn Tyr Arg Ser Leu Ser Leu Tyr Cys Trp Leu Ala Arg
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Glu Gly Arg Thr Ser Ser Tyr Gln Gly Asn Gln Gly Ser Leu Arg Pro
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<210> 5800

<211> 535

<212> PRT

<213> Homo sapiens

<400> 5800

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Glu | Gly | Ala | Arg | His | Arg | Asn | Asn | Thr | Glu | Lys | Lys | His | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gly | Gly | Gly | Glu | Ser | Asp | Ala | Ser | Pro | Glu | Ala | Gly | Ser | Gly | Gly | Gly |

20 25 30  
 Gly Val Ala Leu Lys Lys Glu Ile Gly Leu Val Ser Ala Cys Gly Ile  
 35 40 45  
 Ile Val Gly Asn Ile Ile Gly Ser Gly Ile Phe Val Ser Pro Lys Gly  
 50 55 60  
 Val Leu Glu Asn Ala Gly Ser Val Gly Leu Ala Leu Ile Val Trp Ile  
 65 70 75 80  
 Val Thr Gly Phe Ile Thr Val Val Gly Ala Leu Cys Tyr Ala Glu Leu  
 85 90 95  
 Gly Val Thr Ile Pro Lys Ser Gly Gly Asp Tyr Ser Tyr Val Lys Asp  
 100 105 110  
 Ile Phe Gly Gly Leu Ala Gly Phe Leu Arg Leu Trp Ile Ala Val Leu  
 115 120 125  
 Val Ile Tyr Pro Thr Asn Gln Ala Val Ile Ala Leu Thr Phe Ser Asn  
 130 135 140  
 Tyr Val Leu Gln Pro Leu Phe Pro Thr Cys Phe Pro Pro Glu Ser Gly  
 145 150 155 160  
 Leu Arg Leu Leu Ala Ala Ile Cys Leu Leu Leu Leu Thr Trp Val Asn  
 165 170 175  
 Cys Ser Ser Val Arg Trp Ala Thr Arg Val Gln Asp Ile Phe Thr Ala  
 180 185 190  
 Gly Lys Leu Leu Ala Leu Ala Leu Ile Ile Ile Met Gly Ile Val Gln  
 195 200 205  
 Ile Cys Lys Gly Glu Tyr Phe Trp Leu Glu Pro Lys Asn Ala Phe Glu  
 210 215 220  
 Asn Phe Gln Glu Pro Asp Ile Gly Leu Val Ala Leu Ala Phe Leu Gln  
 225 230 235 240  
 Gly Ser Phe Ala Tyr Gly Gly Trp Asn Phe Leu Asn Tyr Val Thr Glu  
 245 250 255  
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 260 265 270  
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 Thr Ala Met Ser Pro Gln Glu Leu Leu Ala Ser Asn Ala Val Ala Val  
 290 295 300  
 Thr Phe Gly Glu Lys Leu Leu Gly Val Met Ala Trp Ile Met Pro Ile  
 305 310 315 320  
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 325 330 335  
 Ser Ser Arg Leu Phe Phe Ala Gly Ala Arg Glu Gly His Leu Pro Ser  
 340 345 350  
 Val Leu Ala Met Ile His Val Lys Arg Cys Thr Pro Ile Pro Ala Leu  
 355 360 365  
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 370 375 380  
 Tyr Thr Leu Ile Asn Tyr Val Gly Phe Ile Asn Tyr Leu Phe Tyr Gly  
 385 390 395 400  
 Val Thr Val Ala Gly Gln Ile Val Leu Arg Trp Lys Lys Pro Asp Ile  
 405 410 415  
 Pro Arg Pro Ile Lys Ile Asn Leu Leu Phe Pro Ile Ile Tyr Leu Leu  
 420 425 430  
 Phe Trp Ala Phe Leu Leu Val Phe Ser Leu Trp Ser Glu Pro Val Val  
 435 440 445  
 Cys Gly Ile Gly Leu Ala Ile Met Leu Thr Gly Val Pro Val Tyr Phe

450                      455                      460  
 Leu Gly Val Tyr Trp Gln His Lys Pro Lys Cys Phe Ser Asp Phe Ile  
 465                      470                      475                      480  
 Glu Leu Leu Thr Leu Val Ser Gln Lys Met Cys Val Val Val Tyr Pro  
                     485                      490                      495  
 Glu Val Glu Arg Gly Ser Gly Thr Glu Glu Ala Asn Glu Asp Met Glu  
                     500                      505                      510  
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 Val Ala Gly Gln Pro Gln Pro  
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 <212> DNA  
 <213> Homo sapiens

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 360  
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 1920  
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&lt;210&gt; 5802

&lt;211&gt; 350

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5802

Asp Pro Thr Ser Asp Asp Val Met Asp Ser Phe Leu Glu Lys Phe Gln

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Ser Gln Pro Tyr Arg Gly Gly Phe His Glu Asp Gln Trp Glu Lys Glu |     |     |     |
| 20  | 25  | 30  |     |
| Phe Glu Lys Val Pro Leu Phe Met Ser Arg Ala Pro Ser Glu Ile Asp |     |     |     |
| 35  | 40  | 45  |     |
| Pro Arg Glu Asn Pro Asp Leu Ala Cys Leu Gln Ser Ile Ile Phe Asp |     |     |     |
| 50  | 55  | 60  |     |
| Glu Glu Arg Ser Pro Glu Glu Gln Ala Lys Thr Tyr Lys Asp Glu Gly |     |     |     |
| 65  | 70  | 75  | 80  |
| Asn Asp Tyr Phe Lys Glu Lys Asp Tyr Lys Lys Ala Val Ile Ser Tyr |     |     |     |
| 85  | 90  | 95  |     |
| Thr Glu Gly Leu Lys Lys Lys Cys Ala Asp Pro Asp Leu Asn Ala Val |     |     |     |
| 100   | 105 | 110 |     |
| Leu Tyr Thr Asn Arg Ala Ala Ala Gln Tyr Tyr Leu Gly Asn Phe Arg |     |     |     |
| 115   | 120 | 125 |     |
| Ser Ala Leu Asn Asp Val Thr Ala Ala Arg Lys Leu Lys Pro Cys His |     |     |     |
| 130   | 135 | 140 |     |
| Leu Lys Ala Ile Ile Arg Gly Ala Leu Cys His Leu Glu Leu Lys His |     |     |     |
| 145   | 150 | 155 | 160 |
| Phe Ala Glu Ala Val Asn Trp Cys Asp Glu Gly Leu Gln Ile Asp Ala |     |     |     |
| 165   | 170 | 175 |     |
| Lys Glu Lys Lys Leu Leu Glu Met Arg Ala Lys Ala Asp Lys Leu Lys |     |     |     |
| 180   | 185 | 190 |     |
| Arg Ile Glu Gln Arg Asp Val Arg Lys Ala Asn Leu Lys Glu Lys Lys |     |     |     |
| 195   | 200 | 205 |     |
| Glu Arg Asn Gln Asn Glu Ala Leu Leu Gln Ala Ile Lys Ala Arg Asn |     |     |     |
| 210   | 215 | 220 |     |
| Ile Arg Leu Ser Glu Ala Ala Cys Glu Asp Glu Asp Ser Ala Ser Glu |     |     |     |
| 225   | 230 | 235 | 240 |
| Gly Leu Gly Glu Leu Phe Leu Asp Gly Leu Ser Thr Glu Asn Pro His |     |     |     |
| 245   | 250 | 255 |     |
| Gly Ala Arg Leu Ser Leu Asp Gly Gln Gly Arg Leu Ser Trp Pro Val |     |     |     |
| 260   | 265 | 270 |     |
| Leu Phe Leu Tyr Pro Glu Tyr Ala Gln Ser Asp Phe Ile Ser Ala Phe |     |     |     |
| 275   | 280 | 285 |     |
| His Glu Asp Ser Arg Phe Ile Asp His Leu Met Val Met Phe Gly Glu |     |     |     |
| 290   | 295 | 300 |     |
| Thr Pro Ser Trp Asp Leu Glu Gln Lys Tyr Cys Leu Ile Ile Trp Arg |     |     |     |
| 305   | 310 | 315 | 320 |
| Ser Thr Leu Arg Met Arg Thr Gly Gln Asn Tyr Thr Gly Cys Leu Pro |     |     |     |
| 325   | 330 | 335 |     |
| Arg Ala Pro Cys Tyr Arg Phe Tyr Ser Thr Arg Gly Thr Leu         |     |     |     |
| 340   | 345 | 350 |     |

&lt;210&gt; 5803

&lt;211&gt; 692

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5803

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120

ggagtgaatt tggaccaaac tgtaaaggaa tttatcgtat ttctaaagca agatgtccct  
 180  
 ttaaggacca acctgccacc accattcaga aattataaat atgatgcact aaagattatt  
 240  
 catcaagcac ataaatcaaa gacaaatgaa cttgtgttga gtttggaaga tgacgaaaga  
 300  
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 360  
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<210> 5804

<211> 126

<212> PRT

<213> Homo sapiens

<400> 5804

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Pro | Gly | Glu | Val | Thr | Ile | Thr | Val | Arg | Leu | Ile | Arg | Ser | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | His | Arg | Asn | Phe | Lys | Pro | Val | Val | Tyr | His | Gly | Val | Asn | Leu | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Thr | Val | Lys | Glu | Phe | Ile | Val | Phe | Leu | Lys | Gln | Asp | Val | Pro | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Thr | Asn | Leu | Pro | Pro | Pro | Phe | Arg | Asn | Tyr | Lys | Tyr | Asp | Ala | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ile | Ile | His | Gln | Ala | His | Lys | Ser | Lys | Thr | Asn | Glu | Leu | Val | Leu |
|     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Glu | Asp | Asp | Glu | Arg | Leu | Leu | Leu | Lys | Glu | Asp | Ser | Thr | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Ala | Ala | Gly | Ile | Ala | Ser | Glu | Thr | Glu | Ile | Ala | Phe | Phe | Cys | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Glu | Asp | Tyr | Arg | Asn | Tyr | Lys | Ala | Asn | Pro | Ile | Ser | Ser | Trp |     |     |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |

<210> 5805

<211> 1112

<212> DNA

<213> Homo sapiens

<400> 5805

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 120

aaggccatcc ttgcgggggc tgaggccgat ctctccatg ggctgagtgc tcagtggaga  
180  
gcggggagtt gtgtccacct tgccgacgtc gctagccgtg gggctgtcct ggggaaggcgg  
240  
acggcgagcg cccggtgtcc gcaactcggcc gcctgccgtg cccgtctgcg cccgtgtcat  
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&lt;210&gt; 5806

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5806

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ile | Tyr | Phe | Pro | Ile | His | Cys | Pro | Asp | Tyr | Leu | Arg | Ser | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Met | Thr | Glu | Val | Met | Met | Asn | Thr | Gln | Pro | Met | Glu | Glu | Ile | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Ser | Pro | Arg | Lys | Asp | Gly | Leu | Ser | Tyr | Gln | Ile | Phe | Pro | Asp | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Asp | Phe | Asp | Arg | Cys | Cys | Lys | Leu | Lys | Asp | Arg | Leu | Pro | Ser | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Val | Glu | Pro | Thr | Glu | Gly | Glu | Val | Glu | Ser | Gly | Glu | Leu | Arg | Trp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Pro | Glu | Glu | Phe | Leu | Val | Gln | Glu | Asp | Glu | Gln | Asp | Asn | Cys | Glu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Thr | Ala | Lys | Glu | Asn | Lys | Glu | Gln |     |     |     |     |     |     |     |

100

105

&lt;210&gt; 5807

&lt;211&gt; 1429

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5807

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420  
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720  
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780  
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900  
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960  
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1020  
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1200  
ccagggtctg caagttcaac ggtcatagct gtccctccag gcccacact tgctcacca  
1260  
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1320  
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1429

<210> 5808

<211> 261

<212> PRT

<213> Homo sapiens

<400> 5808

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 Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp Ala Arg Gln Gly  
 35 40 45  
 Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu Ala Pro Leu Ala Trp  
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 Arg Ser Leu Tyr Val Ala Cys Thr Ala Leu Ala Leu Gln Leu Val Met  
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 Val Ile Ser Trp Leu Leu Ile Phe Ser Ile Leu Leu Val Phe Asp Tyr  
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 Ala Glu Leu Met Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly Leu  
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 Gly Glu Pro Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe Ser  
 180 185 190  
 His Leu Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp Val  
 195 200 205  
 Val Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu Thr  
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 Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg Tyr  
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<210> 5809

<211> 2009

<212> DNA

<213> Homo sapiens

<400> 5809

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<210> 5810

<211> 52

<212> PRT

<213> Homo sapiens

<400> 5810

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| Xaa | Phe | Phe | Phe | Phe | Phe | Lys | Met | Glu | Ser | Arg | Ser | Ile | Thr | Gln | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gly | Gly | Gln | Trp | Arg | Asp | Leu | Gly | Ser | Leu | Gln | Pro | Pro | Pro | Pro | Gly |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Phe | Lys | Gln | Phe | Ser | Cys | Leu | Ser | Leu | Leu | Ser | Ser | Trp | His | Tyr | Lys |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| His | Pro | Thr | Pro |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 5811

<211> 1607

<212> DNA

<213> Homo sapiens

<400> 5811

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&lt;210&gt; 5812

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5812

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Trp | Cys | Trp | Leu | Asp | Val | Gly | Gly | Phe | Thr | Gly | Pro | Ala | Val | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Arg | Ser | His | Ala | Val | Ile | Arg | Ser | Leu | Glu | Ala | Ala | Asp | Leu | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Pro | Gln | Ala | Ile | Glu | Pro | Gln | Ala | Ile | Val | Gln | Gln | Val | Pro | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Ser | Arg | Met | Gln | Met | Pro | Gln | Gly | Asn | Pro | Leu | Leu | Leu | Ser | His |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Leu | Gln | Glu | Leu | Leu | Ala | Arg | Asp | Thr | Val | Gln | Val | Glu | Leu | Ile |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Glu | Lys | Lys | Gly | Leu | Phe | Leu | Lys | His | Val | Glu | Tyr | Glu | Val | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Gln | Arg | Phe | Lys | Ser | Ser | Val | Tyr | Arg | Arg | Tyr | Asn | Asp | Phe | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Phe | Gln | Glu | Met | Leu | Leu | His | Lys | Phe | Pro | Tyr | Arg | Met | Val | Pro |

115 120 125  
 Ala Leu Pro Pro Lys Arg Met Leu Gly Ala Asp Arg Glu Phe Ile Glu  
 130 135 140  
 Ala Arg Arg Arg Ala Leu Lys Arg Phe Val Asn Leu Val Ala Arg His  
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 Gly Ser Asp Val Gln Asn Lys Leu Lys Glu Ser Ala Gln Cys Val Gly  
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 Asp Glu Phe Leu Asn Cys Lys Leu Ala Thr Arg Ala Lys Asp Phe Leu  
 195 200 205  
 Pro Ala Asp Ile Gln Ala Gln Phe Ala Ile Ser Arg Glu Leu Ile Arg  
 210 215 220  
 Asn Ile Tyr Asn Ser Phe His Lys Leu Arg Asp Arg Ala Glu Arg Ile  
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 Ala Ser Arg Ala Ile Asp Asn Ala Ala Asp Leu Leu Ile Phe Gly Lys  
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 Glu Leu Ser Ala Ile Gly Ser Asp Thr Thr Pro Leu Pro Ser Trp Ala  
 260 265 270  
 Ala Leu Asn Ser Ser Thr Trp Gly Ser Leu Lys Gln Ala Leu Lys Gly  
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 290 295 300  
 Lys Gln Glu Glu Asn Asp Val Val Glu Lys Leu Asn Leu Phe Leu Asp  
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 Leu Leu Gln Ser Tyr Lys Asp Leu Cys Glu Arg His Glu Lys Gly Val  
 325 330 335  
 Leu His Lys His Gln Arg Ala Leu His Lys Tyr Ser Leu Met Lys Arg  
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 370 375 380  
 Glu Leu Arg Asn Tyr Phe Ser Leu Tyr Cys Leu His Gln Glu Thr Gln  
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 405 410 415  
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 Asp Leu Arg Pro Lys Leu Ser Cys Leu Phe Ala Gly Pro His Ser Thr  
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&lt;210&gt; 5813

&lt;211&gt; 2991

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5813

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 2991

&lt;210&gt; 5814

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5814

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 Gln Arg Thr Asn Pro Lys Leu Cys Asp Asn Lys Leu Cys Ser Ala Val  
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 Phe Ile Pro Trp Asn Pro Thr Arg Pro Asp His Cys Pro Ser Ser Glu  
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 130 135 140  
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 <212> DNA  
 <213> Homo sapiens

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 <211> 196  
 <212> PRT  
 <213> Homo sapiens

<400> 5816  
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 Lys Glu Arg Arg Lys Glu Ile Asp Leu Leu Leu Gly Gln Thr Asp Asp

35 40 45  
 Thr Arg Tyr His Val Leu Val Asn Leu Gly Leu Pro Ser Leu Phe Ser  
 50 55 60  
 Phe Gly Leu Val Asp Asp Ala His His Leu Ile Asn Ala Leu Arg Gln  
 65 70 75 80  
 Gln Ser Ile Thr Leu His Leu Val Asp Val Met Pro Val Leu Ile Thr  
 85 90 95  
 Leu Ser Ser Leu Gly Ser Ser Phe Leu Leu His Leu Arg Phe Gly Pro  
 100 105 110  
 Leu Ser Leu Val Ser His Thr Gly Ala Leu Gln Leu Pro Asn Lys Gly  
 115 120 125  
 Gln His Leu Ser Cys Gly Phe Ile Pro Ala Gly Pro Val Asn Glu Arg  
 130 135 140  
 Thr Val Ser Leu Glu His Lys Ile Arg Val Arg Leu Val Leu Val Leu  
 145 150 155 160  
 Gln Thr Thr Gly Gly Tyr Ile Arg His Gly Arg Gly Cys Ser Glu Ala  
 165 170 175  
 Ser Asp His His Ala Ser Ile Pro Gln Ala Ala Asn Gly Arg Arg Ser  
 180 185 190  
 Leu Leu Leu Ala  
 195

&lt;210&gt; 5817

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5817

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&lt;210&gt; 5818

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5818

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Met Gly Gln Leu Gln Asn Lys Glu Asn Asn Asn Thr Lys Asp Ser Pro
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Ser Arg Gln Cys Ser Trp Asp Lys Ser Glu Ser Pro Gln Arg Ser Ser
      20           25           30
Met Asn Asn Gly Ser Pro Thr Ala Leu Ser Gly Ser Lys Thr Asn Ser
 35           40           45
Pro Lys Asn Ser Val His Lys Leu Asp Val Ser Arg Ser Pro Pro Leu
 50           55           60
Met Val Lys Lys Asn Pro Ala Phe Asn Lys Gly Ser Gly Ile Val Thr
65           70           75           80
Asn Gly Ser Phe Ser Ser Ser Asn Ala Glu Gly Leu Glu Lys Thr Gln
      85           90           95
Thr Thr Pro Asn Gly Ser Leu Gln Ala Arg Arg Ser Ser Ser Leu Lys
      100          105          110
Val Ser Gly Thr Lys Met Gly Thr His Ser Val Gln Asn Gly Thr Val
      115          120          125
Arg Met Gly Ile Leu Asn Ser Asp Thr Leu Gly Asn Pro Thr Asn Val
      130          135          140
Arg Asn Met Ser Trp Leu Pro Asn Gly Tyr Val Thr Leu Arg Asp Asn
      145          150          155          160
Lys Gln Lys Glu Gln Ala Gly Glu Leu Gly Gln His Asn Arg Leu Ser
      165          170          175
Pro Met Ile Met Ser Ile Thr Val Leu His Asp Glu Leu Asp Asp
      180          185          190

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&lt;210&gt; 5819

&lt;211&gt; 1652

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5819

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420
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600

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 1652

&lt;210&gt; 5820

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5820

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 Val Thr Leu Cys Val Ile Leu Tyr Lys Lys Val His Lys Gly Thr Val  
 20 25 30  
 Pro Lys Asn Asp Ala Asp Asp Glu Ser Glu Thr Pro Glu Glu Leu Glu  
 35 40 45  
 Glu Glu Ile Pro Val Val Ile Cys Ala Ala Ala Gly Arg Met Gly Ala  
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<210> 5821
<211> 3292
<212> DNA
<213> Homo sapiens
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960  
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 3292

&lt;210&gt; 5822

&lt;211&gt; 712

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5822

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Leu | Leu | Leu | Ala | Asp | Glu | Lys | Phe | Asp | Phe | Asp | Leu | Ser | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     | 15  |     |     |     |
| Ser | Ser | Ser | Ala | Asn | Glu | Asp | Asp | Glu | Val | Phe | Phe | Gly | Pro | Phe | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| His | Lys | Glu | Arg | Cys | Ile | Ala | Ala | Ser | Leu | Glu | Leu | Asn | Asn | Pro | Val |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Glu | Gln | Pro | Pro | Leu | Pro | Thr | Ser | Glu | Ser | Pro | Phe | Ala | Trp | Ser |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Pro | Leu | Ala | Gly | Glu | Lys | Phe | Val | Glu | Val | Tyr | Lys | Glu | Ala | His | Leu |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     |     |     | 70  |     |     |     | 75  |     |     | 80  |     |
| Leu | Ala | Leu | His | Ile | Glu | Ser | Ser | Ser | Arg | Asn | Gln | Ala | Ala | Gln | Ala |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Lys | Pro | Glu | Asp | Pro | Arg | Ser | Gln | Gly | Val | Glu | Arg | Phe | Ile | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |    |
| Glu | Ser | Lys | Leu | Lys | Ile | Asn | Leu | Phe | Glu | Lys | Glu | Lys | Glu | Met | Lys |    |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |    |
| Lys | Ser | Pro | Thr | Ser | Leu | Lys | Arg | Glu | Thr | Tyr | Tyr | Leu | Ser | Asp | Ser |    |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |    |
| Pro | Leu | Leu | Gly | Pro | Pro | Val | Gly | Glu | Pro | Arg | Leu | Leu | Ala | Ser | Ser |    |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |    |
| Pro | Ala | Leu | Pro | Ser | Ser | Gly | Ala | Gln | Ala | Arg | Leu | Thr | Arg | Ala | Pro |    |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |    |
| Gly | Pro | Pro | His | Ser | Ala | His | Ala | Leu | Pro | Arg | Glu | Ser | Cys | Thr | Ala |    |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |    |
| His | Ala | Ala | Ser | Gln | Ala | Ala | Thr | Gln | Arg | Lys | Pro | Gly | Thr | Lys | Leu |    |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |    |
| Leu | Leu | Pro | Arg | Ala | Ala | Ser | Val | Arg | Gly | Arg | Ser | Ile | Pro | Gly | Ala |    |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |    |
| Ala | Glu | Lys | Pro | Lys | Lys | Glu | Ile | Pro | Ala | Ser | Pro | Ser | Arg | Thr | Lys |    |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |    |
| Ile | Pro | Ala | Glu | Lys | Glu | Ser | His | Arg | Asp | Val | Leu | Pro | Asp | Lys | Pro |    |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |    |
| Ala | Pro | Gly | Ala | Val | Asn | Val | Pro | Ala | Ala | Gly | Ser | His | Leu | Gly | Gln |    |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |    |
| Gly | Lys | Arg | Ala | Ile | Pro | Val | Pro | Asn | Lys | Leu | Gly | Leu | Lys | Lys | Thr |    |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |    |
| Leu | Leu | Lys | Ala | Pro | Gly | Ser | Thr | Ser | Asn | Leu | Ala | Arg | Lys | Ser | Ser |    |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |    |
| Ser | Gly | Pro | Val | Trp | Ser | Gly | Ala | Ser | Ser | Ala | Cys | Thr | Ser | Pro | Ala |    |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |    |
| Val | Gly | Lys | Ala | Lys | Ser | Ser | Glu | Phe | Ala | Ser | Ile | Pro | Ala | Asn | Ser |    |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |    |
| Ser | Arg | Pro | Leu | Ser | Asn | Ile | Ser | Lys | Ser | Gly | Arg | Met | Gly | Pro | Ala |    |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |    |
| Met | Leu | Arg | Pro | Ala | Leu | Pro | Ala | Gly | Pro | Val | Gly | Ala | Ser | Ser | Trp |    |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |    |
| Gln | Ala | Lys | Arg | Val | Asp | Val | Ser | Glu | Leu | Ala | Ala | Glu | Gln | Leu | Thr |    |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |    |
| Ala | Pro | Pro | Ser | Ala | Ser | Pro | Thr | Gln | Pro | Gln | Thr | Pro | Glu | Gly | Gly |    |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |    |
| Gly | Gln | Trp | Leu | Asn | Ser | Ser | Cys | Ala | Trp | Ser | Glu | Ser | Ser | Gln | Leu |    |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |    |
| Asn | Lys | Thr | Arg | Ser | Ile | Arg | Arg | Arg | Asp | Ser | Cys | Leu | Asn | Ser | Lys |    |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |    |
| Thr | Lys | Val | Met | Pro | Thr | Pro | Thr | Asn | Gln | Phe | Lys | Ile | Pro | Lys | Phe | </ |

|   |     |     |
|---|-----|-----|
| 530   | 535 | 540 |
| Ser Ala Met Arg Thr Glu Pro Thr Arg Glu Ser Asn Arg Lys Thr Asp |     |     |
| 545   | 550 | 555 |
| Ser Arg Leu Val Asp Val Ser Pro Asp Arg Gly Ser Pro Pro Ser Arg |     |     |
|   | 565 | 570 |
| Val Pro Gln Ala Leu Asn Phe Ser Pro Glu Glu Ser Asp Ser Thr Phe |     | 575 |
|   | 580 | 585 |
| Ser Lys Ser Thr Ala Thr Glu Val Ala Arg Glu Glu Ala Lys Pro Gly |     | 590 |
|   | 595 | 600 |
| Gly Asp Ala Ala Pro Ser Glu Ala Leu Leu Val Asp Ile Lys Leu Glu |     | 605 |
|   | 610 | 615 |
| Pro Leu Ala Val Thr Pro Asp Ala Ala Ser Gln Pro Leu Ile Asp Leu |     | 620 |
| 625   | 630 | 635 |
| Pro Leu Ile Asp Phe Cys Asp Thr Pro Glu Ala His Val Ala Val Gly |     | 640 |
|   | 645 | 650 |
| Ser Glu Ser Arg Pro Leu Ile Asp Leu Met Thr Asn Thr Pro Asp Met |     | 655 |
|   | 660 | 665 |
| Asn Lys Asn Val Ala Lys Pro Ser Pro Val Val Gly Gln Leu Ile Asp |     | 670 |
|   | 675 | 680 |
| Leu Ser Ser Pro Leu Ile Gln Leu Ser Pro Glu Ala Asp Lys Glu Asn |     | 685 |
|   | 690 | 695 |
| Val Asp Ser Pro Leu Leu Lys Phe                                 |     | 700 |
| 705   | 710 |     |

&lt;210&gt; 5823

&lt;211&gt; 2585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5823

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720

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|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
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| Lys | Met | Ala | Lys | Ala | Pro | Ser | Ala | Ala | Arg | Ser | Leu | Pro | Ser | Ala | Ser |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Thr | Ser | Lys | Ala | Thr | Ile | Ser | Asp | Glu | Glu | Ile | Glu | Arg | Gln | Leu | Lys |
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 35           40           45
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| Arg | Cys | Val | Leu | Leu | Leu | Gly | Cys | Leu | His | Leu | Gly | Arg | Pro | Gly | Ala |
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| Pro | Gly | Asp | Ala | Ala | Leu | Pro | Glu | Pro | Asn | Val | Phe | Leu | Ile | Phe | Ser |
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| His | Gly | Leu | Gln | Gly | Cys | Leu | Glu | Ala | Gln | Gly | Gly | Gln | Val | Arg | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Pro | Ala | Cys | Asn | Thr | Ser | Leu | Pro | Ala | Gln | Arg | Trp | Lys | Trp | Val |
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| Ser | Arg | Asn | Arg | Leu | Phe | Asn | Leu | Gly | Thr | Met | Gln | Cys | Leu | Gly | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
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| Tyr | Gly | Ser | Glu | Glu | Asp | Leu | Cys | Ala | Leu | Pro | Tyr | His | Glu | Val | Tyr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Ile | Gln | Gly | Asn | Ser | His | Gly | Lys | Pro | Cys | Thr | Ile | Pro | Phe | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Asp | Asn | Gln | Trp | Phe | His | Gly | Cys | Thr | Ser | Thr | Gly | Arg | Glu | Asp |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | His | Leu | Trp | Cys | Ala | Thr | Thr | Gln | Asp | Tyr | Gly | Lys | Asp | Glu | Arg |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Trp | Gly | Phe | Cys | Pro | Ile | Lys | Ser | Asn | Asp | Cys | Glu | Thr | Phe | Trp | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Lys | Asp | Gln | Leu | Thr | Asp | Ser | Cys | Tyr | Gln | Phe | Asn | Phe | Gln | Ser | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Ser | Trp | Arg | Glu | Ala | Trp | Ala | Ser | Cys | Glu | Gln | Gln | Gly | Ala | Asp |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Leu | Ser | Ile | Thr | Glu | Ile | His | Glu | Gln | Thr | Tyr | Ile | Asn | Gly | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Thr | Gly | Tyr | Ser | Ser | Thr | Leu | Trp | Ile | Gly | Leu | Asn | Asp | Leu | Asp |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Ser | Gly | Gly | Trp | Gln | Trp | Ser | Asp | Asn | Ser | Pro | Leu | Lys | Tyr | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asn | Trp | Glu | Ser | Asp | Gln | Pro | Asp | Asn | Pro | Ser | Glu | Glu | Asn | Cys | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Ile | Arg | Thr | Glu | Ser | Ser | Gly | Gly | Trp | Gln | Asn | Arg | Asp | Cys | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ile | Ala | Leu | Pro | Tyr | Val | Cys | Lys | Lys | Lys | Pro | Asn | Ala | Thr | Ala | Glu |

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 Leu Val Ser Ile His Ser Met Ala Glu Leu Glu Phe Ile Thr Lys Gln  
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 His Trp His Pro Phe Glu Pro Asn Asn Phe Arg Asp Ser Leu Glu Asp  
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 770 775 780  
 Cys Ala Val Leu Asp Leu Ala Ser Leu Gln Trp Val Ala Met Gln Cys

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Asn Lys Pro Thr Ser Cys Ala Val Val Leu His Ser Pro Ser Ala His
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Phe Thr Gly Arg Trp Asp Asp Arg Ser Cys Thr Glu Glu Thr His Gly
      1090          1095          1100
Phe Ile Cys Gln Lys Gly Thr Asp Pro Ser Leu Ser Pro Ser Pro Ala
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Cys Glu Ser His Asn Ala Ser Leu Ala Tyr Val Pro Asp Pro Tyr Thr
      1155          1160          1165
Gln Ala Phe Leu Thr Gln Ala Ala Arg Gly Leu Arg Thr Pro Leu Trp
      1170          1175          1180
Ile Gly Leu Ala Gly Glu Glu Gly Ser Arg Arg Tyr Ser Trp Val Ser
1185          1190          1195          1200
Glu Glu Pro Leu Asn Tyr Val Gly Trp Gln Asp Gly Glu Pro Gln Gln
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Pro Gly Gly Cys Thr Tyr Val Asp Val Asp Gly Ala Trp Arg Thr Thr

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